MAKING EMBODIED PRACTICES VISIBLE: THE IMPACT OF VIDEO ASSESSMENT

ON PRE-SERVICE TEACHERS

By

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(Under the Direction of Joseph Tobin)

ABSTRACT

This study explores how pre-service teachers' development is affected by making and reviewing videos of their own instruction, as well as how video can function as a tool for evaluation and scaffolding in the context of edTPA (Teacher Performance Assessment), the new pre-service teacher assessment measure that Georgia and many other states are now mandating. More specifically, the study looks at the impacts, both positive and negative, of a video portfolio assignment implemented in a teaching methods course in Block 2 (the second semester) of the early childhood education teacher preparation program at the University of Georgia (UGA), and of the uses and meanings these videos have for pre-service teachers, their instructors, and the teacher preparation program itself. The data was collected from videos, pre-service teachers' reflection papers, and video-cued focus-group interviews. Theories of embodiment guide this study, including Mauss' theory of "techniques of the body," Bourdieu's theory of "body habitus," Butler's theory of "performativity," and Latour's "Actor Network Theory" (ANT).

This study suggests that videotaping, on one hand, has the virtue of placing more attention on the often-overlooked embodied dimensions of teaching (e.g., gesture, posture, gaze, tone of voice, facial expressions, use of materials, and positioning) and provides a mechanism

for pre-service teachers to reflect on their teaching practice. Video recordings can give students and their instructors a way to recall events in specific lessons, a shared text to use for classroom discussions, and a way to track change in students' progress over the course of a semester or program. On the other hand, the requirement to videotape themselves teaching can produce anxiety that can make pre-service teachers tend towards self-conscious, teacher-centered versions of teaching. The dissertation concludes with implications for how initial teacher preparation programs can most effectively implement the videotaping requirement of edTPA.

INDEX WORDS: Embodied Practice; Bodily Techniques; Pre-service Teachers; Preschool; Body Language; Teacher Preparation Program; Videos; Reflections

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iv

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Page

CHAPTER 1

INTRODUCTION

This study explores how making and reviewing videos of their own instruction impacts pre-service teachers' development, as well as how video can function as a tool for evaluation and scaffolding in the context of edTPA (Teacher Performance Assessment), the new pre-service teacher assessment measure that Georgia and many other states are now mandating. More specifically, it is a study of videos made in Block 2 (the second semester) of the early childhood education teacher preparation program at the University of Georgia (UGA), and of the uses and meanings these videos have for students and their instructors. Videotaping, on one hand, has the virtue of placing more attention on the often-overlooked embodied dimensions of teaching (e.g., gesture, posture, gaze, tone of voice, facial expressions, use of materials, and location) and provides a mechanism for pre-service teachers to reflect on their teaching practice. On the other hand, the requirement to videotape themselves teaching can produce anxiety that can make them tend towards self-conscious, teacher-centered versions of teaching.

The Larger Context for This Research

We live in the age of YouTube, Go-Pro cameras, and ubiquitous video surveillance. As technological advances have made video recording and editing much easier and less expensive, and more a part of the flow of everyday life, video technologies are being used increasingly in teacher education programs. Video can be used to document and illustrate exemplary classroom practices and as a tool to allow pre-service teachers to reflect on their own and others' teaching practice (Anderson, Major, & Mitchell, 1990; Canning, & Talley, 2002; Darling-Hammond,

2006; Erickson, 2006). Videos also can be used as an aid for teacher assessment and certification (Calandra, Brantley-Dias, Lee, & Fox, 2009; Rich, & Hannafin, 2009; Star, & Strickland, 2008; Wang, & Hartley, 2003).

With all the changes ushered in by the new millennium, this is also a time of transformation in teacher preparation and in opinions on what counts as evidence of competent teaching. Video is playing a key role in these new developments. After more than four years of development and analysis, including two years of field testing with 12,000 teacher candidates, Stanford University and the American Association of Colleges for Teacher Education (AACTE) formed a partnership to develop and share edTPA (formerly known as the Teacher Performance Assessment), designed for determining whether or not new teachers are ready to enter the profession with the skills necessary to teach effectively. As demand grew, Stanford University partnered with Pearson, Inc. to administer edTPA.

edTPA is a new approach to certifying teachers across a range of specializations. To date, 32 states (including Georgia) and 160 teacher preparation programs—including that of UGA—have adopted edTPA as their primary mechanism for certification. A key, innovative feature of edTPA is the requirement that teaching candidates submit as part of their portfolio a video of themselves teaching. During their student teaching semester, pre-service teachers are asked to videotape themselves teaching a lesson and then to select a 15 to 20-minute segment to include in their teaching portfolios, along with their lesson plans, work samples from students, and their own reflections on the videotaped lesson.

A small but growing body of research has examined the uses and impacts of edTPA (Gale, Trief, & Lengel, 2010; Peck, Gallucci, & Sloan, 2010; Peck & McDonald, 2013; Chiu Stephanie, 2014; Madeloni, & Gorlewski, 2013). Some studies see edTPA as an advance in the

professionalization of teaching. These studies suggest that edTPA is an effective mechanism to push teacher candidates to develop an understanding about what effective teaching is, as well as how it is defined and measured. For teacher preparation programs, edTPA aims to provide a valid data source that can be used for studying program effectiveness, in addition to collecting meaningful and consistent data to improve and update teacher education programs. edTPA holds out the promise of providing a new way to supervise and evaluate pre-service teachers, and may change the relationship among university supervisors, mentor teachers and student teachers.

However, some scholars and educators see in edTPA the danger of over-standardization, a disempowering and de-professionalizing of university faculty, the introduction of a high-stakes, low validity test of teaching, and the introduction of further inequities into the teaching labor force. For example, Madeloni & Gorlewski (2013) wrote:

> edTPA has been imposed on teacher education—an imposition that pushes aside work that matters deeply to education scholars. It narrows the possibilities of teaching and learning, distracts us from critical multicultural education, is an invitation for corporate encroachment, and restricts academic freedom. (p. 16)

They and others argue that edTPA, by underestimating the uncertainties of teaching, will narrow conceptions of what "counts" in teaching and learning. Also, edTPA distracts from social justice education, as it makes students focus on meeting the requirements of edTPA at the expense of giving attention to other aspects of the teacher preparation curriculum. In addition, when Pearson, Inc. became involved with the edTPA program, it corporatized teacher education, according to Madeloni & Gorlewski, by seeking to "reap huge profits, exploit the privacy of students and teacher candidates and outsource teacher educators' labor" (p. 18). One of the most ominous parts of edTPA, they argue, is the way in which voices of dissent have been silenced by

intimidation; edTPA restricts academic freedom and makes the host teachers or teacher candidates who refuse edTPA risk losing their jobs. In conducting this study, I take a neutral position towards edTPA's political controversies, as my focus is on how edTPA's video requirements will impact the development of teachers and teacher education.

Implementing edTPA at UGA

The initial teacher certification programs at UGA are undergoing changes in response to the state's requirement to implement edTPA. The Fall 2015 graduates of UGA's early childhood / elementary education program were the first cohort to get their teacher certification through edTPA "consequentially," meaning that the scores were binding on the outcome of the pre-service teachers' certification. Because this teacher preparation program was in the process of installing edTPA as the primary teacher assessment and certification measure, video as a new assessment method has been a timely topic for research as aspects of edTPA were being incorporated into its courses.

Students who were student teaching in Fall 2015 were enrolled in Fall 2014 in EDEC 4020 (Principles and Practices in Early Childhood Education), one of the core Block 2 courses. Instructors of the three sections of this course in Fall 2014 made it a core requirement for the course that students submit a "miniature edTPA portfolio," including a lesson plan, a video recording of their lesson, and a reflection paper on the lesson. Portfolios were submitted at midterm and at the end of the semester. These portfolios are the central source of data analyzed in this study.

Teaching as Embodied Practice

Most teacher education programs emphasize the planned, conscious, intentional, and verbal aspects of teaching, focusing more on lesson plans, written reflections, observation

4

reports, and journals. These documents provide evidence of planned and post-hoc written explanations and rationalizations of teaching decisions, which can be quite useful for improving teacher's professional skills. However, embodied and unplanned practices require as much attention as language use. The study of the embodied and emergent experience of teachers is important in the education field; in particular, the learning of implicit and embodied knowledge plays a crucial but under-conceptualized and under-studied role in teacher preparation programs.

Following the argument of Hayashi and Tobin (2015), I view teaching as embodied in two senses:

> We are concerned with two meanings of embodiment. One is a focus on teachers' literal use of their bodies as a teaching tool, how they use their hands to gesture, comfort, and discipline; their posture, gaze, and location in the classroom to indicate varying levels of attention; their voice to communicate empathy, frustration, disapproval, and enthusiasm. A second, related meaning is on teaching as embodied in the sense of practices that lack premeditation and reflection and that are analogous to the reliance on "muscle memory" of athletes and musicians.... if we pay more attention to implicit and especially to embodied dimensions of professional practice and to emergent rather than only to planned and intended aspects of classroom events. (p. 9, p. 12)

Many people might intuitively understand the general notion that bodily motions could be important for teaching, but "muscle memory" is often associated more with athletic activities than with something like teaching. Despite its name, "muscle memory"—a function that improves and solidifies mechanical bodily actions—is not stored in people's muscles, but in people's brains! Athletes and dancers use video-stimulated reflection to consciously refine their muscle memory and improve performance.

Is teaching a field in which expertise can be similarly improved by watching videos and reflecting on one's practice? What kind of "muscle memory" makes for effective teachers? How can pre-service teachers acquire this kind of "muscle memory"? The video requirements of edTPA have potentially opened up a promising opportunity to explore these questions, giving greater emphasis to aspects of teaching that are more difficult to describe with words, such as a teacher's use of materials, gaze, gesture, posture, and positioning in the classroom. In the context of edTPA and similar frameworks for teacher assessment, video can be turned into a useful tool to help pre-service teachers become more reflective about their own and others' teaching practice.

Purpose of The Study

The purpose of this study is to investigate how video can function as a tool for evaluating and scaffolding teachers' development. This study examines the practices utilized by teacher educators and/or programs implementing a video component, for example, in which pre-service teachers are required to video themselves over the course of their second semester, as in the early childhood education program at UGA. I explore how video as an assessment method is impacting—both positively and negatively—notions of teaching and teacher preparation by placing more attention and scrutiny on the visible aspects of teaching. How does being videotaped and watching one's video influence a pre-service teacher's embodied practice and change his/her thinking about teaching? What is the impact of video assessment on pre-service teachers, and how do they, their university instructors, and field supervisors feel about the impacts of the edTPA video component on their learning? I argue that videotaping may have not only the virtue of calling more attention to long-overlooked embodied dimensions of teaching, but also the drawback of leading students, faculty, and edTPA evaluators to emphasize obviously

"teacherly" versions of teaching over more constructivist practices in which the teacher may not look sufficiently "active."

Video assessment requirements may bring both positive and negative influences to pre-service teachers' development. On the positive side, the pre-service teachers may consequently pay more attention to certain embodied practices (e.g., kneeling down to talk to students; using gestures, making eye contact, etc.). In other words, they will show their best and most professional behaviors in front of the camera. However, on the negative side, they may choose to emphasize those aspects that are easily filmed and select those video segments in which they appear most traditionally "teacherly." For example, they may choose to teach a small group instead of working with the whole class, because videotaping the small group may be easier than capturing the dynamics of the entire classroom.

When the pre-service teachers recorded videos, they encountered technological problems, such as low battery life with recording devices, the need for storage media, difficulty with transferring data to computers, bad lighting and angles for shooting, and trouble with capturing the sound, etc. Where is the best place to position the camera? Which camera angles are better? Which shots are best for capturing pre-service teachers' body movements (close shot, medium shot, or wide shot)? All of these factors may impact the evaluation of the video. A cameraman and editor can shoot and edit to give a scene a different atmosphere, making the viewer more or less sympathetic to the protagonist. With that in mind, we should pay attention to how the edTPA videos inadvertently communicate positive or negative feelings about a teacher's competence.

Research Questions

The following research questions guide this research.

1. How is video assessment impacting notions of teaching and teacher preparation, both positively and negatively?

   1) What are pre-service teachers' attitudes towards the use of video assessment?

   2) What are teacher educators' attitudes towards the use of video assessment?

   3) What positive and negative influences does video assessment have on teacher education?

2. What are the effects of the videotaping assignment on pre-service teachers' development?

   1) Will this new assignment contribute to our students' collective progress in their teaching competence?

   2) How are university instructors and pre-service teachers balancing attention to both conscious/verbal/planned and embodied/implicit/spontaneous aspects of teaching?

   3) Outside of edTPA, can video reflection be effectively implemented in teacher preparation programs more generally, and how?

3. Does a focus on embodied aspects of teaching help pre-service teachers?

   1) Does the video assignment help pre-service teachers to become more conscious of their use of bodily techniques?

   2) How much do students learn from their self-reflections on embodied practice?

   3) How much do they benefit from instructors' feedback on their embodied practice?

   4) How much and in what ways do they improve their embodied practice from the midterm to the final assignment?

Theoretical Framework

Theories of embodiment guide this study, including Mauss' theory of "techniques of the body," Bourdieu's theory of "body habitus," Butler's theory of "performativity," and Latour's "Actor Network Theory" (ANT). With all the emphasis is on writing lesson plans, journals of field experiences, and reflections on lessons taught, have we been overlooking the embodied nature of teaching? The following theories help build the idea that the embodied dimension of teaching can and should be consciously studied and developed.

Techniques of Body

Mauss (1934/1973) introduced the concept of "Techniques of body." He argued,

These 'habits' (bodily techniques) do not just vary with individuals and their imitations, they vary especially between societies, educations, proprieties and fashions, prestiges. In them we should see the techniques and work of collective and individual practical reason rather than, in the ordinary way, merely the soul and its repetitive faculties. (p. 73)

Although Mauss seemed to speak in terms associated with mind/body dualism, in an essay on Mauss, Crossley (2007) pointed out that "Sociology is not guilty of mind/body dualism, in the philosophical sense, but tends rather to take the embodiment of actions and practices for granted and thus to overlook it" (p. 80). He said that Mauss made a great contribution to sociology by emphasizing that the body is a site of experience, and that body techniques pull the physical, mental and social aspects of a human being together into an irreducible whole.

Following Mauss, we can hypothesize that the typical body techniques of effective teachers are imitated, taught and learned by pre-service teachers. Mauss explained that, "In all these elements of the art of using the human body, the facts of education were dominant. The

9

notion of education could be superimposed on that of imitation" (p. 73). Pre-service teachers learn to be professionals in part through embodied learning. Hayashi and Tobin (2015) wrote,

> Mauss emphasizes that people use their bodies in ways that are characteristic of their culture, gender, social class, and profession without these bodily practices being systematically taught, proscribed, or available to conscious intent. (p. 8)

In other words, bodily techniques are characteristic not only of people's culture, gender, and social class, but also of their profession; dancers or athletes, for example, have specific bodily techniques associated with their work.

Body Habitus

According to Bourdieu (1986), cultural capital can exist in three forms: in the embodied state; in the form of cultural goods; and in the institutionalized state. The embodied state of cultural capital can be acquired, to a varying extent, depending on the period, the society, and the social class, and it generally is acquired and inherited unconsciously. Moreover, when one possesses a certain degree of embodied cultural capital, he or she can use this cultural capital to obtain new cultural capital from books, pictures, artwork, and so on. The final form of cultural capital – the institutionalized state – can contribute to one's educational qualifications to some extent. Pre-service teachers inherit the ideas and values of their parents and their community, and then they bring their own embodied cultural capital into the university and gain more cultural capital in the objectified state in the teacher education program. Afterward, they go into a new environment (the teaching field) to gain some practical experience in which they imitate their mentor teacher and change their habitus to adapt to the new environment. At the same time, they gradually get the institutionalized form of cultural capital

through their field experience, and finally form their own characteristic habitus throughout their entire teaching career.

Habitus, a concept developed by Bourdieu, also contributes significantly to our understanding of what influences people's behaviors and beliefs. According to Bourdieu (1977),

> Habitus is a complex concept, but in its simplest usage could be understood as a structure of the mind characterized by a set of acquired schemata, sensibilities, dispositions and taste. The particular contents of the habitus are the result of the objectification of social structure at the level of individual subjectivity. (p. 133)

That is to say, a certain behavior or belief becomes part of a society's structure when the original purpose of that behavior or belief can no longer be recalled, and individuals of that culture become socialized into it, typically apart from any conscious consideration. Collectively, a classroom can be said to embody its socio-cultural context, and so to possess a kind of habitus at the level of the entire class (including the teacher), rather than at the individual level. This habitus influences the respective roles of students and teachers, in terms of the kinds of speech they employ, their bodily registers, and so on.

Bourdieu drew on Mauss to develop "habitus" into the concept of "body habitus." In the chapter "Bodily Knowledge" of his book, *Pascalian Meditations* (2000), Bourdieu explained that habitus is "neither mechanism nor finalism," and that "social agents are endowed with habitus, inscribed in their bodies by past experience" (p. 138). Bourdieu argued that the mind is not superior to the body, and theories are not superior to practical knowledge; sometimes bodily practice comes before belief. Bourdieu's work on the body suggests that not every action is preceded by a premeditated and explicit plan. Therefore, bodily techniques should be given as

much attention as language use. For example, the pre-service teacher may pay some attention to using her body to teach or imitating her mentor teacher's embodied practice.

An implication of this line of study is that we need to rethink the centrality of the disembodied mind in teaching and give more attention to the development of embodied practice in teacher education. Body habitus can be learned and also taught to others through embodied teaching. People normally do not consciously learn this kind of techniques, but through staying in the same field, working together, and observing and imitating the practices of experts, they start to form an increasingly similar bodily habitus. The mentor teacher models his/her practice for the pre-service teacher not only linguistically but also through nonverbal expressions, such gestures, postures, facial expressions, and positioning in the classroom. Moreover, as the pre-service teacher becomes more professional, she forms some specific "muscle memory" for teaching, such as how to hold a book for storytelling, stand in front of the class, and use her gaze as a tool for classroom management.

Performativity

I also use Butler's (1988) argument that gender is a performance as an analogue to teaching as a performance, rather than an essence. As Butler (1988) wrote:

Gender reality is performative… It seems fair to say that certain kinds of acts are usually interpreted as expressive of a gender core or identity, and that these acts either conform to an expected gender identity or contest that expectation in some way… This implicit and popular theory of acts and gestures as expressive of gender suggests that gender itself is something prior to the various acts, postures, and gestures by which it is dramatized and known. (pp. 527-528)

Butler's argument that gender is something that is performed is useful for my study in two ways: because most elementary and preschool teachers are women, the characteristic bodily techniques of this profession will tend to be feminine. Most of our pre-service teachers come to us with already feminized "gendered bodies," and they then unconsciously acquire feminine teaching gestures, which become incorporated into their embodied practice. As Butler explained, "[t]o be a woman is to have become a woman, to compel the body to conform to an historical idea of 'woman,' to induce the body to become a cultural sign" (p. 522). Teaching follows a similar logic: to be a teacher is to compel the body to become teacher-like. In addition, Butler suggested, "[the] body becomes its gender through a series of acts which are renewed, revised, and consolidated through time" (p. 523). It takes time for pre-service teachers to learn, imitate, and practice bodily techniques as they observe and reflect on one another's teaching. Finally, novice in-service teachers continually revise their bodily techniques to form a more "teacherly" body.

This study uses these theories of embodiment to explore the practices of pre-service teachers that can be conceptualized as "bodily knowledge." Bodily knowledge follows a logic that is non-linguistic; as Maurice Bloch (1991) explains,

> When our informants honestly say "this is why we do such things," or "this is what this means," or "this is how we do such things," instead of being pleased we should be suspicious and ask what kind of peculiar knowledge is this which can take such an explicit, linguistic form? Indeed, we should treat all explicit knowledge as problematic, as a type of knowledge probably remote from that employed in practical activities under normal circumstances. (pp. 193-194)

Do we have a blind spot in the area of embodied knowledge in teacher education? I suggest that video can be a useful tool to make the embodied practices of pre-service teachers more visible to the pre-service teachers themselves, as well as to their supervisors, instructors and researchers.

Actor Network Theory (ANT)

Use of materials is an important category of bodily techniques; an influential theory dealing with the complex relationship between materials and users is Actor Network Theory (ANT), developed by science and technology scholars Michel Callon and Bruno Latour, the sociologist John Law, and others. The actor-network is the central concept in ANT, which treats objects as an integral part of social networks. ANT tries to explain how material–semiotic networks come together to act as a whole; the clusters of actors involved in creating meaning are both material and semiotic. In other words, any actor can be considered as linked with other actors, and different actors relate together in a network so that they form an apparently coherent whole. The classroom is an example of a complicated system which contains many components, such as mentor teachers, students, pre-service teachers—even furniture, teaching materials, etc.—all of which are essentially hidden from the view of the pre-service teacher, who simply deals with the whole class as a single object. As Latour (1996) stated,

> When your informants mix up organization and hardware and psychology and politics in one sentence, don't break it down first into neat little pots; try to follow the link they make among those elements that would have looked completely incommensurable if you had followed normal academic categories. (pp. 62-63)

Everything is an agent that can influence itself and other actors, so pre-service teachers' behaviors and perspectives are also shaped and affected by the other actors in the network of the classroom. Normally, only the people have been counted as actors, but from this viewpoint, the

objects, such as furniture, the setting of the classroom, and teaching materials are also recognized as having active roles in the classroom.

Bourdieu's idea helps us to better understand what shapes people's behaviors and beliefs in the field, while ANT provides an analytic landscape to help us to realize the complexity of the actor-networks existing in the field experiences of pre-service teachers. Bourdieu's three forms of cultural capital are similar to the three resources of agencies in ANT. As Latour (1996) stated,

> Three resources have been developed over the ages to deal with agencies. The first one is to attribute to them naturality and to link them with nature. The second one is to grant them sociality and to tie them with the social fabric. The third one is to consider them as a semiotic construction and to relate agency with the building of meaning. (p. 47)

The three resources are used to account for the construction of separate entities in the classroom. One lesson cannot be broken down into pieces; all the actors, such as pre-service teachers, students, the other people in the classroom, and materials "have a fibrous, thread-like, wiry, stringy, ropy, capillary character" (p. 49). That means, the relationships among the actors are not two-dimensional or three-dimensional, they are nodes that have as many dimensions as they have connections. For example, the unique background of each pre-service teacher will influence the atmosphere of a classroom. On the other hand, the culture of a classroom also influences pre-service teachers through the social interaction between all actors in the classroom. Finally, all actors construct a harmonious atmosphere in the classroom.

ANT does not limit sociality to individual human actors, so the term *actant* has been coined as referring to nonhuman and/or non-individual entities. As Latour explains,

> The attribution of human, unhuman, nonhuman, inhuman, characteristics; the distribution of properties among these entities; the connections established between them; the

15

circulation entailed by these attributions, distributions and connections; the

transformation of those attributions, distributions and connections, of the many elements

that circulates and of the few ways through which they are sent. (p. 53)

In order to appreciate the active role of non-human entities, it is necessary to refocus our

attention in understanding the dynamics of the classroom. This means assuming that nothing lies

outside the network of relations, and as cited above, there is no difference in the importance of

technological, human, animal, or other non-human actors/actants. Latour (2005) stated the

reason that non-humans were ignored with regard to their "sociality" or "agency," as the terms

are used by sociologists, and he offered relevant examples: "If action is limited a priori to what

'intentional', 'meaningful' humans do, it is hard to see how a hammer, a basket, a door closer, a

cat, a rug, a mug, a list, or a tag could act" (p. 71). Pre-service teachers' behaviors and

perspectives are influenced not only by people, such as mentor teachers, students, and parents,

influence pre-service teachers' behaviors and perspectives, but also by nonhuman entities, such

as furniture, classroom settings, teaching materials—and now, the new edTPA program. The

videos are the key component of edTPA; therefore, cameras and videotaping may become some

of the most influential nonhuman actors in the classroom—not to mention, in teacher preparation

programs. Shooting video breaks the traditional balance of what is expected in a harmonious

classroom atmosphere. The camera attracts student's attention; filmmaking influences the pre-

service teacher's performance, and videotaping is becoming a new tool for supervising student

teachers. In fact, these nonhuman actors exert a tremendous influence on the human actors.

Moreover, actor-networks are uncertain and unpredictable, and these networks are

potentially transient, continually being made and remade according to the changing

circumstances of the classroom. Networks of relations are not intrinsically coherent, and may

16

indeed contain conflicts. Social relations always exist as part of a process, and must be performed continuously. As Callon (1999) claimed:

> The most important is that ANT is based on no stable theory of the actor; rather, it assumes the radical indeterminacy of the actor…ANT is a break from the more orthodox currents of social science. This hypothesis has, as is well known, opened the social sciences to non-humans. (pp. 181-182)

An actor-network may lack all the characteristics of a technical network—it may be local, it may have no compulsory paths, no strategically positioned nodes, and it may not be in a final and stabilized state. In other words, the power of each actor is unstable, and the relationship between actors is potentially changing at all times.

One of the advantages of thinking in terms of networks is that we may get rid of "the tyranny of distance" or proximity. As Latour (1996) pointed out,

> Elements which are close when disconnected may be infinitely remote if their connections are analyzed; conversely, elements which would appear as infinitely distant may be close when their connections are brought back into the picture. (p. 50)

That is to say, actor-networks can transcend spatial limitations and relationships, which provides people with a notion of space that includes all types of relationships—both physical and social. When an ESL student who is unacquainted with mainstream American culture communicates with pre-service teachers, they may feel remote from each other because of the differences in their cultures, positions, beliefs, attitudes, and experiences; however, they may be spatially close because they are staying in the same classroom for several months, or they are sitting around one table to do an activity in a lesson. In addition, as both a mentor teacher and a pre-service teacher work in the same classroom with the same group of children, they build a very close spatial and

professional relationship with each other. These kinds of close associations are helpful for actors

to share ideas, feelings and beliefs and contribute to solving conflicts between each other.

Spatial distance exists not only between people in the classroom, but also between

student teachers and their field placements. For example, two pre-service teachers working in

different classrooms—or even different schools—with different mentor teachers and students

may often meet with the same problems or dilemmas. Even pre-service teachers who have no

physical contact with one another in their field placements can, in some way, empathize with

each other; they are both new teachers and they are learning in the same program, so they may

share similar feelings through this kind of symbolic interaction.

Significance of The Study

The conceptual/theoretical background discussed above will play an important role as we

turn toward a review of literature relating to the present study, and later as we analyze the bodily

techniques of pre-service teachers. Recording video of lessons provides a mechanism for pre-

service teachers to reflect on their teaching practice. Video-cued reflection can help pre-service

teachers pay more attention to their embodied practice, including their use of gesture, facial

expression, tone of voice, posture, location, gaze, and materials in the classroom. Video

recordings can give students and their instructors a way to recall events in student teaching, a

shared text to use for classroom discussions, and a way to track changes in student' progress over

the course of a semester or program. For teacher preparation programs, this study holds

important implications, especially for those programs in the process of implementing edTPA as

their primary teacher assessment and certification measure. For policymakers and educators, this

research provides data on the positive and negative impacts of video assessment, particularly as

implemented in edTPA.

CHAPTER 2

REVIEW OF LITERATURE

In this chapter I discuss some of the more prominent research relating to the use of video in teacher preparation programs, as well as some gaps in the literature on this topic. This review will help to illustrate the impacts of video in teacher preparation programs and to provide further background for my research on this topic. I first explore how video is an important component currently being used in teacher education. This review has allowed me to better understand the different ways in which video benefits teacher education. Furthermore, some literature will be reviewed to explore the use of video as an assessment tool in teacher education, as well as to address some concerns and issues relating to video assessment methods. Moreover, it is important to examine the experiences of other universities that have implemented edTPA or similar teacher assessment programs. Such studies can provide many helpful examples for implementing video assessment in teacher education programs, and—for those with a critical stance—for exploring alternative methods to using videos. Finally, I review studies on embodied teaching practice that help people to understand the importance and benefits not only of the verbal aspects of pedagogy, but also of bodily techniques in teaching practice.

Using Video in Teacher Education

Since the mid 1960s, educators from Stanford University began to examine applications of videotape-recording technology in teacher education (McCurry, 2000). Many researchers have studied the use of videotaping with both pre-service (Canning & Talley, 2002; Santagata, Zannoni, & Stigler, 2007; Rich & Hannafin, 2008; Star & Strickland, 2008) and in-service (Pucel

& Stertz, 2005; Maclean & White, 2007) teachers. Anderson, Major, & Mitchell (1990) reported that over 98% of North American schools had videotaped teachers' classroom practices, but only around 35% of pre-service and in-service teachers felt they had benefitted from that videotaping.

Blomberg et al. (2013) provided a research synthesis on the use of video in teacher education and discussed strengths and limitations concerning how videos may be used to support pre-service teachers' learning. As supported by a range of studies reviewed by the authors,

> Videos promote meaningful learning opportunities in teacher education…Video bridges
>
> the gap between theory and practice and supports pre-service teachers' attempts to apply
>
> what they have learned at the university in actual classroom lessons. (p. 93)

To provide more detailed information about how video is used in pre-service teacher education, Blomberg et al. provided five research-based heuristics to understand the uses of video as a tool to facilitate professional development in teacher education programs. The authors suggested that video technology should be used in teacher education; however, they argued that well-founded knowledge and understanding of the proper use of video as a technological tool in pre-service teacher education is still lacking. Therefore, even though a growing number of empirical studies have been done, research-based experimental studies still need to be conducted to find the advantages and disadvantages of using videos in teacher preparation programs.

Video can be used in many different ways in teacher preparation programs. Firstly, video can be used to capture teaching episodes, to illustrate classroom cases, and to review teaching practices, and in these ways, as a tool for developing flexible pedagogical thinking. For example, Calandra et al. (2009) conducted a study on the effective use of video editing to help enhance teachers' reflection on their practice. In this research, they used a qualitative research design to examine two guided reflection activities for two groups of novice teachers. The first

group attended a "debriefing" session with their supervisors or course instructor immediately after teaching their lessons, and later wrote about critical incidents that occurred during their teaching. The second group had no debriefing, but the participants were asked to videotape their teaching, edit the video for two critical incidents, and reflect on the incidents in written form using the same rubric as the first group. Even though the two groups used the same reflection guidelines, they found that students who developed video vignettes produced longer and more multifaceted reflections; Calandra et al. stated,

> They [i.e., the second group of students] were allowed time to draw from multiple sources of knowledge, including their own, to think about whether or not their teaching decisions made sense. (p. 87).

Calandra et al. found the implications of these results to be an important contribution of using videos to facilitate novice teachers' development.

Borko and Jacobs (2008) conducted a study to understand how classroom videos can be a productive tool for fostering discussions about teaching and learning. Video can capture the classroom environment for later review, which provides teachers with a chance to notice any points they missed, reflect on their teaching from different angles, and start a discussion with their peers. The data suggested, "the participants in their program engaged in increasingly reflective and productive full-group conversations around video from one another's classrooms" (p. 435), and one possible reason for these changes is "an expanding ability and willingness to learn by analyzing and sharing ideas about classroom video" (p. 432). Sharing classroom videos and discussing the issues and concerns is a good way for novice teachers to develop their teaching practice. Also, video is a useful tool for fostering productive discussion in teaching methods courses.

Video can function as a tool to improve teachers' professional vision. Sherin's a series of studies (Sherin, 2001, 2007; Sherin & Han, 2004; Van Es & Sherin, 2008) explored how reflecting on videos of peers' teaching could support in-service teachers' learning. Furthermore, Sherin & Van Es (2009) explained, with reference to repeated remarks on the part of participants in these studies, that "not only have the video clubs themselves been a valuable experience but that watching video, and the video clubs in particular, have influenced their teaching" (p. 32). Sherin & Van Es (2009) studied mathematics teachers' learning in a two-year-long video club in which teachers met monthly to watch and discuss videos of each other's teaching. The authors found that participating in a video club and reflecting on the videos developed teachers' professional vision and improved their ability to notice and interpret the crucial moments of classroom interactions. Also, the results suggested that "professional vision is a productive lens for investigating teacher learning via video" (p. 20). Although these studies pertained specifically to in-service teachers, the results can be equally used in studying the development of pre-service teacher's professional vision.

Rich and Hannafin (2009) compared emerging video annotation tools and described their applications for supporting and potentially transforming teacher reflection. After reviewing the role of videos in teacher education history, they introduced video annotation tools which "allow an individual to both capture and analyze video of personal teaching practice, enabling teachers to review, analyze, and synthesize captured examples of their own teaching in authentic classroom contexts" (p. 53). Video annotation, they argued, "can augment and extend teacher reflection experiences by facilitating and structuring the analysis process" (p. 63), as well as it offers the potential to analyze one's own teaching, as well as the ability to associate teaching practices captured on video with other evidence of teaching and student learning.

Video helps pre-service teachers to reflect not only on their own but also on others' practices. According to Star and Strickland (2008), video viewing can be a means to improve teachers' ability to observe classroom practices. They utilized a pre- and post-test design to measure the quantity and type of classroom events that pre-service mathematics teachers noticed before and after they attended a teaching methods course in which they learned observation skills through viewing videos of teaching. The pre-assessment suggested that pre-service teachers generally do not enter teaching methods courses with well-developed observational skills, while the post-assessment indicated that the course significantly improved their observational skills, "particularly in teachers' ability to notice features of the classroom environment, mathematical content of a lesson, and teacher and student communication during a lesson" (p. 107). This research suggests that video viewing is a beneficial method for improving teachers' observation and reflection skills.

Reviewing experienced teacher's teaching videos is a regular way for developing professional teaching skills in most teacher preparation programs. Although any videotapes of teaching could potentially provide meaningful ideas for novice teachers, viewing their own classroom videos will have different influences and may benefit new teachers more. Video self-analysis has been used for many years, and studies have generally shown that using video for self-analysis benefits pre-service teachers. One advantage of using video for self-analysis is that videos can be kept permanently and viewed multiple times (Brouwer, 2011; Calandra, Brantley-Dias, & Dias, 2006; Wu & Kao, 2008). Another benefit is that watching videos of their own teaching can help pre-service teachers see themselves from different perspectives (Downey, 2008; Dye, 2007; McCurry, 2000; Shepherd & Hannafin, 2008).

23

Video Assessment

Positive Effects

As the use of video for teacher development and certification increases across the world, video self-analysis is proving beneficial for teacher education. A study by Tripp and Rich (2012) provided a deeper understanding of how video influences the process of teacher development. In their study, participants reported that video encourages change because it helps them to

(a) Focus their analysis, (b) see their teaching from a new perspective, (c) trust the feedback they received, (d) feel accountable to change their practice, (e) remember to implement changes, and (f) see their progress. (p. 728)

Teachers desired and felt a responsibility to make positive changes to their teaching. In this process, video self-analysis plays an important role.

There is much literature addressing the assessment of teachers' effectiveness. In 22 chapter "Promising Practices in Early Childhood Teacher Assessment," of *Handbook of early childhood teacher education*, Jamil and Pianta (2015) reviewed the current teacher assessment tools that have been used in varying combinations to evaluate early childhood teacher effectiveness in the U.S. in regard to teacher inputs, processes, and outputs. Teacher inputs are the characteristics of teachers, including teacher knowledge measures and teacher skill assessments. Since classroom practices are so wide-ranging, one of the most common approaches to assessing classroom practices is classroom observation. Lastly, educational outputs include changes in their students' achievement data as well as the content of their teaching portfolios:

Portfolios can exhibit teacher effectiveness through the use of lesson plans, assignments, students work samples, assessments, classroom videos, and teacher reflective writing that describes why selected artifacts are included. (p. 341)

Such data can offer evidence of teachers' exemplary practice and students' progress. However, Jamil and Pianata expressed their concerns that,

The comprehensive nature of portfolios can be a double-edged sword – even though they allow teachers to show evidence of effectiveness in domains not easily captured in classroom observations or even student achievement tests, the detailed documentation required can be time consuming and distracting from the actual work of teaching. This problem persists even if reliable scoring of portfolios is maintained over time. Clarifying the purpose of the portfolio assessment is also among the most salient challenges. (p. 342)

The inclusion of video as an integral component of teacher performance assessments like edTPA, while adding to the richness of the data, also presents further challenges, both for pre-service teachers and for teacher preparation programs.

There are two opposing camps in regard to the use of video in teacher preparation and assessment. One side is pro-video, arguing that video can solve many problems in teacher preparation—for example, (1) by allowing supervisors to see pre-service teachers' teaching without leaving their offices and spending hours traveling from school to school, and (2) by allowing students and supervisors to share a common text, namely a video record. The other side claims that relying on videos may sacrifice the affective interaction of face-to-face communication; moreover, the "bodies" in the video are poor substitutes for the "real bodies" of pre-service teachers. One side is pro-technology, and the other is suspicious of allowing more

technology to intervene in teaching, and in the process to remove the engagement of people and bodies in real time and in the same space. They regard video as too nebulous and variable in its contexts and quality to be treated as a valid assessment text.

The purpose of Greenwalt's (2008) study is to understand pre-service teachers' opinions about the videotaping and analysis of their own instruction as part of their coursework. The research explored the difficulties in transitioning from student subjectivity to teacher subjectivity among pre-service teachers in a teacher preparation program. The author suggested that the use of videotapes in pre-service teacher education, "like all technologies, can either facilitate or disrupt the workings of power in the formation of teacher identities" (p. 398). In other words, educators should consider whether or not video assessment is actually playing a helpful role in student teachers' growth through their pre-service experiences. Greenwalt claimed,

> The assignment itself—recording, observing and writing about one's teaching—was structured as an imposition that was at the same time both unwelcoming and potentially useful (even transgressive) for student teachers. (p. 389)

He borrowed Michel Foucault's idea and argued that in this assignment, "power (the institutions of teacher education) works through technologies (broadly conceived, as assignments, as cameras, as discourses and practices, etc.) to create subjectivities (that of the teacher)" (p. 389). According to Foucault's notion, videotaping—as implemented in the requirements of edTPA—is an unwelcome, intrusive "regime" (in contrast to the way videos of performances are viewed, for example, by dancers and athletes). Being videotaped as part of an evaluation is quite different, however, as it will place the pre-service teacher under more pressure and scrutiny (in comparison with videotaping one's own performance for the purpose of voluntary self-improvement).

Bakker et al. (2011) conducted a study about using video portfolios to develop a useful procedure for assessing teachers' teaching competence. The researchers used video portfolios to record teachers' teaching in the classroom. Six trained assessors scored three video portfolios, and two aspects were examined: first, the inter-rater agreement between assessors was examined as an aspect of the reliability of the scores; second, they explored the assessors' opinions about the utility of the assessment procedure with respect to making reliable judgments. The "inter-rater" agreement was determined for scores assigned to the performances shown in individual video episodes and for the overall teaching performance. Then, teachers were interviewed about their experiences in scoring and judging video portfolios. They found that supporting information, such as descriptions of learning activities, summaries of what happened during the video episodes, and information about context, could help assessors to evaluate the videos. Their findings shed more light on issues regarding the construction and use of video portfolios as a method for teacher performance assessment. In implementing assessment tools that, like edTPA, use video as a key component for performance assessment, students' scores will hinge partly on whether they provide such supporting information through their videos and narrative reflections.

Negative Influences

Still, video assessment methods can also bring negative influences to teacher education and teachers' performance. One concern is that a focus on tacit and implicit, embodied aspects of teaching in our pre-service programs can draw time and attention away from more explicit activities, such as lesson planning and written reflections. In turning attention to the body, we should avoid falling into a mind/body binary and instead view teaching as an activity that combines the use of the teachers' minds and bodies. We need to thoughtfully consider how best to balance attention among the conscious/verbal/planned and embodied/ implicit/spontaneous

27

aspects of teaching. We should also remember that some embodied practices are conscious/ intentional/planned, while some non-embodied teaching practices are implicit/unplanned/ unconscious.

Another concern is how much and in what ways people change their behaviors in front of the camera. Using videos as an assessment tool, we hope the camera can capture the spontaneous and natural behaviors of pre-service teachers. However, as Mohl (2011) claimed,

Everyone who has experienced filming knows the special effect the camera has on people being filmed and on what they are doing: they may go on living their lives, but they do so in a slightly different manner. One gets the impression that they are performing their own lives. I have defined this 'slightly different' manner, this mise en sce`ne, as a semantic densification, to use Edwin Ardener's notion [1987], a densification that occurs when the camera is turned on. (p. 232-233)

Mohl's concept of densification may be helpful for understanding why teachers may appear to perform better or worse or simply differently in their videos, because of their conscious effort to perform like an effective teacher.

Admiraal et al. (2011) argued that "the richness and complexity of video portfolios endanger both the reliability and validity of the assessment of teacher competencies" (p. 1019). They evaluated the assessment of video portfolios with regard to its "reliability, construct validity, and consequential validity," and argued that video portfolios come from complex contexts and are likely to be interpreted differently by different assessors, which raises reliability and validity issues. Therefore, they suggested that the assessment of video portfolios should be combined with many other strategies—such as "peer debriefing, prolonged engagement, cross-checking, using a dependable strategy, considering multiple sources of information, and holistic

28

examination" (p. 1019) —so that the overall reliability and validity of teacher assessment can be improved. Nonetheless, the majority of the literature suggests that videos bring many benefits to teacher education, and educators and scholars can use video in different ways to improve teachers' performance.

There are several empirical studies that have revealed some of the issues with implementing video assessment in teacher preparation programs. In "Video Technology as a Support for Teacher Education Reform," Want and Hartley (2003) explored the relationship between video technologies and teacher education reform. This is a literature review article in which they first review the ways in which video technology can provide support for important changes in teacher education. They then discuss the use of video to inform pre-service teachers' beliefs, acquire pedagogical content knowledge, and develop their understanding of learners. They raised the concern that,

> Video technology has the potential to expose pre-service teachers to rich and diverse
>
> teaching situations and create flexible ways of representing and connecting information
>
> on teaching for the purposes of teacher education. (p. 105)

They argued that the effectiveness of video technology for teacher learning is more often assumed than carefully documented; the reasons include the conceptual ambiguity of what is counted as an effect of video technology, as well as the methodological complexity of measuring such effects.

Borko et al. (2009) investigated how new technologies—particularly video and online communities—inform teacher candidates' understanding of real classroom issues and improve their professional development. The authors addressed the affordances and constraints of digital technologies:

The unique features of digital technologies can create novel learning experiences, but inherent attributes of technology (instability, unreliability) and the ways in which institutional contexts allocate resources to technology integration also create barriers to realizing them. (p. 5)

Also, to integrate the technology into the curriculum requires the teachers acquire the knowledge and skills of using technologies in teaching. This is a challenge for teachers, teacher educators, and teacher preparation programs, because not everyone is tech-savvy. Teacher educators must become familiar with using technologies in school settings first and think about how to guide and support the pre-service teachers' understanding of how to use technologies effectively in the classroom. At the same time, teacher preparation programs also need to allocate time for integrating the technologies into the curriculum to support the professional development of teachers.

Fuller and Manning (1973) introduced the concept of self-confrontation in the use of video. Their research with pre-service teachers led them to conclude that viewing a video of oneself is a process of self-confrontation, which is difficult, stressful, and painful for some students. They reported that the students they studied felt frustrated at being videotaped; they became overly self-critical and they began to lose confidence in their teaching. Fuller and Manning argued that viewing videos of one's own teaching increases self-consciousness and resistance to feedback, and that some pre-service teachers, when watching and reflecting on their videos, focus too much on their physical appearance, which makes it more difficult for them to focus on their students' responses and how they teach. Self-confrontation may make some people feel better, but it may make others feel discouraged; it can lead to reduced self-esteem and confidence.

It is important to note that this research was conducted more than four decades ago. Now, a new generation of teachers may have different feelings when they face the camera. We live in a society that is saturated with the use of video technologies. University students these days seem keen on sharing images and videos of themselves through social media platforms such as Facebook, Twitter, and MyLife, and increasingly these students have been accustomed to doing so from a very early age. Will this generation still experience the trauma of self-confrontation and feel embarrassed to share their videos with others? Perhaps they will only feel comfortable sharing their "casual" selves with others, but may find it difficult to show their "professional" selves to others. Or, they may feel that their casual selves are different from their professional selves, and might feel awkward reviewing their professional alter egos.

However, not all researchers regard this "self-confrontation" as a drawback. McCurry (2000), in discussing microteaching as it relates to the use of video to guide self and situational critical reflection on teachers' practices, stated that

> A powerful force in changing one's behavior is an external application of feedback, through peer interaction and internalized through personal, self-critique. A necessary set of pre-conditions is assumed to exist in that one has to be willing to accept the input of feedback towards the process of self-improvement and development. A central psychological concept, self-confrontation, is applied to this process of teacher training in small groups through peer feedback and self-analysis. (p. 6)

Even though pre-service teachers may receive positive and negative feedback from their peers, this feedback is still valuable and will occasion behavior modification, because these pre-service teachers face the same issues, share a sense of empathy, and can learn from each other.

Levinson, et al. (2013) proposed that social appearance anxiety, general fear of negative evaluation, and perfectionism are all risk factors for social anxiety disorder (SAD). Social appearance anxiety is defined as the fear or concern that others will give negative evaluations because of one's appearance. Moscovitch (2009) proposed that perceived flaws in appearance may be one of the core causes for individuals with SAD to fear public criticism. Videos captured not only teachers' body movement, but also their appearance, so we can hypothesize that the "self-confrontation" of pre-service teachers partially came from their fears of being criticized in regard to their appearance when others reviewed their videos.

Claes et al. (2012) found that social appearance anxiety was positively related to body mass index, drive for thinness, and body dissatisfaction in women diagnosed with an eating disorder. The reason for the anxiety pre-service teachers feel in sharing videos of themselves with others may be related to social appearance anxiety. In general, they found that women are much more concerned about their appearance than men. The key reason for this is that their appearance is central to how they are evaluated by others in our society. The majority of teachers are women, who may (typically) care more about their appearance than male teachers; thus, when female pre-service teachers need to share their videos with others, we have reasons to believe that a part of their anxiety may come from social appearance anxiety. Also, as Claes et al. suggested, they may sometimes care more about their appearance than their professional performance.

Research on edTPA and Similar Programs

edTPA is controversial, as it enjoys great support from some quarters and is bitterly attacked in others. Some educators are favorable towards edTPA; they think it is a new way to improve teacher education programs by identifying problems and helping teacher educators to

fix them. Darling-Hammond (2006) introduced some research and assessment strategies used to evaluate program outcomes in the Stanford Teacher Education Program, discussing the possibilities and limits of different tools for evaluating teachers. Through her research, we can look back at the history of edTPA through their program and learn the potential contributions of multiple measures of candidates' performance. As Darling-Hammond (2010) stated,

> A reliable and valid system of performance assessments based on common standards would provide consistency in gauging teacher effectiveness, help track educational progress, flag areas of need, and anchor a continuum of performance throughout a teaching career. (pp. 3-4)

Scholars such as Darling-Hammond and other educators have supported edTPA, highlighting that it builds on decades of teacher performance assessment development and research regarding teaching skills and practices that improve student learning.

In contrast, Cochran-Smith, Piazza, and Power (2013) used "a discourse approach" to analyze three complicated and evolving contemporary accountability initiatives in the United States, one of which is edTPA. Their analysis revealed many contradictions and tensions within these new policies. They argued, "given restrictions on access to portfolio materials and the subcontracting of scoring to a distant corporate entity, the quality and extent of teacher educator participation in the process has emerged as a controversial issue" (p.16). They argued that edTPA creates conflict between a widely standardized professionalization of teacher education and local control interests in teacher education. Without access to comprehensive information on specific local contexts, they argue, the results of edTPA will be invalid and unreliable.

Miletta (2014) also argued that edTPA brings more negative side effects than benefits to the preparation of "highly qualified" teachers. On April 19, 2014, She posted some comments

and concerns about edTPA on her blog, in which she summarized some concerns about edTPA, such as its unreasonably high costs and time consumption, problems with protecting students' private records and data, equity issues, and a lack of context for the videos. As she argued, "Outsourcing the scoring of the edTPA to Pearson, known for inadequate and online training of scorers who are underpaid, means a loss of local control where knowledge of context means everything"; the scores of edTPA may not represent the real situations or abilities of pre-service teachers.

Learning from the real-world application of similar programs in other states and universities is useful to throw light on the new edTPA program at UGA, which includes a required video assessment component. The Hunter College Video Analysis of Teaching Project provides us with a good example of how to use video analysis in a teacher preparation program. At the Hunter College School of Education, this project required each graduating student to record a 45-minute video of his or her teaching and choose a five-minute segment from the whole lesson. The 45-minute videos were uploaded online, and then they were viewed and annotated by the student teachers, reviewed by a supervising faculty member, and discussed by the two of them with a focus on multiple aspects, such as content, classroom management, pedagogy, and lesson planning. The 5-minute video clips were chosen by student teachers to illustrate their specific teaching skills. The clips were indexed by content, level, technique, pedagogical purpose, and educational principles, and were archived in a searchable online database that faculty and students could use for learning and teaching. These clips were also used in the content classes in the program. This style is similar to the edTPA format: the student teachers are required to take video of their teaching and choose a short segment to demonstrate that they are ready for teaching. From this project, there are two useful points to consider: (1)

the project changes the supervision method – sharing videos of teaching between pre-service teachers and their supervisors becomes a part of the on-site observation; and (2) building an online database of teaching videos, as in this project, could be quite useful in researching video assessment.

Okhremtchouk, Newell, and Rosa (2013) conducted a study that focused on pre-service teachers' perspectives regarding the process of completing the Performance Assessment for California Teachers (PACT), a program similar to edTPA. They argued that the videotaping component should not be limited only to PACT, and suggested that bringing "videotaping into university coursework would contribute to more authentic and substantive reflections by pre-service teachers on their own teaching practice" (p. 20). This is a useful point for my research, because the data came from one teaching methods course in which the researchers combined a video component with course assignments and sought to improve teacher's professional skills. This study offers important implications for how to use videos in the teacher preparation programs.

The eSupervision instructional program in San Diego State University is another example. To satisfy the requirements of the PACT, the eSupervision program was designed with a cognitive apprenticeship framework to support the performance of student teachers, cooperating teachers, and university supervisors, using a variety of technologies during field experiences. Kopcha and Alger (2011) explained the eSupervision program as follows,

> eSupervision engages in a number of technology-enhanced supervision activities, such as video reflection with an expert, online discussion of classroom management strategies with peers and experts alike, and building lesson plans with a performance support system. (p. 50)

They used both quantitative and qualitative methods in their research, with two cohorts of student teachers during their field experience; one cohort participated in eSupervision and the other did not. They studied student teachers' knowledge and performance, self-efficacy, and the impact of the technologies used in the eSupervision program, arguing that traditional supervision (i.e., a series of observations from a supervisor) may not be as effective for supervising student teachers during their field experience. Therefore, they suggested that San Diego State University should seek alternatives to the traditional approach to supervising student teachers. eSupervison, as Alger and Kopcha (2009) concluded, is "a technology-supported cognitive apprenticeship model that appears to be a powerful framework for structuring the student teaching field experience and managing student teaching supervision" (p. 44). In addition, in this paper Kopcha and Alger suggested that "teacher's performance and self-efficacy influence and are related to each other" (p. 68), and video-cued self-reflection can add to pre-service teachers' self-efficacy. This concept can be usefully contrasted with the concern about self-confrontation. In a supportive climate, video may help to increase pre-service teachers self-efficacy, in contrast to reducing it through self-confrontation.

In Kopcha and Alger's (2014) recent paper, "Student Teacher Communication and Performance During a Clinical Experience Supported By a Technology-Enhanced Cognitive Apprenticeship," they examined the differences in communication and performance among two groups of student teachers and found out that "there was a statistically significant difference in the current study favoring eSupervision students in the area of planning" (p. 55), and that online discussions through both public and private channels may have positive effects on eSupervision students' ability to plan lessons. Lesson planning is a crucial part of pre-service teachers' methods courses, so these findings may help the teacher preparation program to revise curricula.

Reviewing the two programs' implementations of the PACT may bring out some useful insights for implementing edTPA at UGA and elsewhere.

Embodied Practice of Teachers and Teaching

Embodied Teaching

"Body language can include any non-reflexive or reflexive movement of a part, or all of the body, used by a person to communicate an emotional message to the outside world" (Fast, 1970, p.2). When talking about communication, the first thing that comes to mind for many people is the verbal language by which people organize their thoughts and deliberately convey their ideas to others; however, body language is a nonverbal way of communication, and is often a non-deliberate and unconscious expression of people's thoughts and intentions. According to Kurien (2010),

> Body language is one of the forms of non-verbal communication. It includes
> gestures, postures, eye contact, facial expression, handshake, etc. It is vocal in
> communicating emotions, attitude, behavior, feelings through its various forms. Body
> language works involuntarily or unconsciously (p. 29-30).

Many professions rely on the use of the body more heavily or more overtly than others, such as dancing, athletics, and teaching. The use of the body in teaching is of a different character than in dancing and athletics, because teachers use their bodies not only with a focus on physical behaviors, but also to combine language and bodily movement—the interaction between people and material.

As mentioned earlier, most of the scholarship on teacher education emphasizes the conscious, verbal, and planned aspects of teaching. Less attention has been given to the

embodied, implicit, and spontaneous aspects of teaching. White (1989) argued in *Student Teaching as a Rite of Passage*,

> Some of the cultural knowledge of teaching is nonverbal. Much of the knowledge
> acquired at the very beginning of student teaching is physical and imitative – eye gaze,
> posture, pitch of voice, intonation, and has to do with how to talk as a teacher. Much of
> what is learned has to do with space and time: learning where to stand, learning how to
> pace and sequence questions, learning what to do when a child gives a wrong answer. (p.
> 193)

When discussing these bodily teaching strategies, many people seem to understand the concepts and their application somewhat intuitively, but the particulars of how to teach these strategies explicitly have long been ignored by most researchers.

Embodied teaching practice includes not only the literal meaning of using the body as a pedagogical tool (through gestures, facial expression, voice, posture, gaze, etc.) but also how teachers' bodies extend to the materiality of the classroom—for example using or holding props/materials, their location/position in the classroom, or even the writing gestures used on the blackboard. After reviewing the major theories of embodiment, Tobin and Hayashi (2015) introduced their own method of using video in comparative studies of preschools to examine embodied and implicit cultural pedagogies. A teacher is often not entirely conscious of his/her embodied practice—use of the body in certain ways to achieve certain effects—and as a habitual or "second-nature" type of behavior, it can be hard to describe with words. Tobin and Hayashi's study focused on "how Japanese preschool teachers use bodily techniques of *mimamoru* (teaching by watching and waiting) that combine gaze, space/location, posture, and touch" (p. 1).

Video is a key component in their research, as a useful tool allowing for the targeting and analysis of techniques of the body (rather than stopping at the level of a linguistic analysis).

In "Teacher Im/Material: Challenging the New Pedagogies of Instructional Design," McWilliam and Taylor (1998) raised important questions about the embodied nature of teaching and learning, and they suggested that both 'embodied' and 'disembodied' teaching are crucial for conducting appropriately particular pedagogical practices. McWilliams and Taylor argued that, "the teacher's body can come to stand for a body of knowledge and that engagement with this body can at times have positive outcomes for learners" (p. 32). They also wrote that, "the teacher's desire to teach appears to converge with the student's desire to learn, to be instructed as mutual, embodied self-interest" (p. 32). Their argument about how a teacher's body may be regarded as an embodiment of knowledge and as a carrier to convey knowledge to the students may lead us to further consider how pre-service teachers can learn to use their bodies more effectively as tools of teaching.

Jones and Hughes (2012) wrote: "The body—and of particular importance in elementary education, the female body—is manipulated and shaped to the ideological contours of whatever existing hegemonic power is in place" (p. 51). In this article, the authors articulated a theory of a critical body pedagogy that assumed that, "The body is the nexus of meaning-making, the reception point of everything in the social and natural world, and the embodiment of perceptions made and remade across time and space" (p. 54). Jones and Hughes explored what a critical pedagogy of the body might look like in teacher education. They extended the term "embodiment" to include "race, ethnicity, language, religion, sexuality, social class, abled-ness, geography, gender, relationships, family structures, and body image" (p. 54). Through class assignments on topics related to the body, pre-service teachers began to look at their bodies in a

different way, to challenge normative body discourses, and to appreciate the importance of understanding that "bodies are pedagogy" (p. 58). A critical body pedagogy leaves space for future teachers to interact with discourses on the nature of embodied practice.

Embodied knowledge and practice play a crucial role in teaching and in pre-service teachers' fieldwork. Yet, in the area of early childhood teacher education, few studies have focused on non-linguistic, tacit, implicit, and embodied forms of knowledge and practice. Nevertheless, work has been done in other areas of teacher education that can shed light on these aspects of early childhood pedagogy. Dixon and Senior (2011) conducted a study involving an education program located inside a secondary school. They wrote: "The pedagogical relationship between self and other is not metaphorical. It is not only that the learning and teaching are bodily, but the form of the relationship is bodily" (p. 483). Their research suggests that pathways of learning can be traced between teachers and students through their embodied interactions.

In *Teaching Bodies at Work* (2003), Estola and Elbaz-Luwisch reflected on their own experience of embodied practice and examined teachers' narratives about how bodies and bodily positions "speak" in classrooms and schools. They described teaching "from the perspective of 'presence'–of everyday teaching as embodied physical labor, of attractive and unattractive bodies, and of controlling bodies" (p. 697). Their research showed that teachers have an intuitive sense of the importance of embodied practice, but that this knowledge is implicit and hidden, and that paying attention to the body is a challenge for teachers.

The Influence of Teachers' Gestures on Instruction

In recent years, there have been a number of studies addressing the impact of teacher's gestures on instruction. For example, Dr. Martha Alibali of the University of Wisconson has

been a leading researcher in applying video analysis techniques to examine the role of gestures in teaching and communication in the mathematics classroom. A study by Alibali and Nathan (2007) explored teachers' gestures as a way of scaffolding students' understanding. The researchers classified the gestures into three categories: pointing gestures, representational gestures, and writing gestures; their analyses focused on the teachers' use of gestures, including how it varied throughout the lesson and how it related to the utterances of both the teacher and students. Their research showed that "56% of the teachers' utterances included some form of gestural grounding" (p. 355)—in other words, gestures are pervasive in teachers' instructional communication. Also, according to their analyses, "gesture serves a scaffolding function" (p. 360); for example, teachers use more gestures when they introduce new material, explain more abstract content, or respond to students' questions and comments.

In Alibali and Nathan's (2012) follow-up study, they studied teachers' and learners' gestures, concluding that mathematical knowledge is embodied. They argued,

> Mathematical cognition is embodied in 2 key senses: It is based in perception and action, and it is grounded in the physical environment . . . (a) pointing gestures reflect the grounding of cognition in the physical environment, (b) representational gestures manifest mental simulations of action and perception, and (c) some metaphoric gestures reflect body-based conceptual metaphors. (p. 247)

Not only do teachers use many gestures during their instruction and explanation, but students also produce gestures along with their speech when they talk about mathematical concepts and procedures. That is to say, the body is deeply integrated into the process of thinking and speaking. Gestures can reflect speakers' embodied thinking as well as communicate embodied knowledge to learners.

In addition, the implications set forth in Alibali and Nathan's (2012) study have been provoking deeper thinking among teacher educators, although, as was already touched on in the previous chapter, most teacher education methods courses focus on the verbal and explicit aspects of teaching, such as writing lesson plans or facilitating classroom discussion, leading to a lack of attention to the non-verbal and implicit aspects (such as gestures). As they suggested,

> There should be a place in teacher education for the consideration of how speech and body-based resources such as gesture can work in concert to implement effective and engaging instruction that promotes deep understanding of fundamental ideas in mathematics and other content areas. (p. 276)

Again, this points to a gap in teacher education discourses, particularly in regard to how these gestures can be specifically targeted and refined in concert with other pedagogical techniques.

In "Students learn more when their teacher has learned to gesture effectively," a new study by Alibali et al. (2013), the researchers explore the effectiveness of the gestures (pointing, depictive gestures, tracking gestures, writing gestures and the use of beats) in mathematics instruction through tracing students' test scores. In this study, the teacher attended a training session on how to use gestures to convey ideas in mathematics instruction, and they videotaped this teacher teaching sample lessons about slope and y-intercepts before and after the tutorial. They then presented the lesson videos to 42 seventh-grade students and assessed their learning. Students who received the gesture-enhanced lesson displayed greater understanding of y-intercepts than did students who received the pre-tutorial lessons. Their research provides evidence that students can learn more effectively when their teacher has been trained to incorporate gestures into instruction. In other words, the use of gestures shows powerful potential as a pedagogical tool for supporting students' learning.

Alibali et al. (2013) suggest that bodily teaching techniques can be taught and learned. Researchers used statistical methods to evaluate the teacher's gesture production in the two lessons through three dimensions of the teacher's behavior: "(1) his gesture rate, (2) whether he expressed linked ideas multi-modally or in a single modality, and (3) whether he expressed gestural links simultaneously or sequentially" (p. 218). These data demonstrate that the teacher altered the way in which he used gestures to express links between ideas after the gesture-enhancement tutorial. Even though this research is based on a single teacher, age group, and topic in one mathematics class, this study still could suggest an answer to whether bodily techniques can improve students' learning performance, as well as whether embodied knowledge can be taught and transferred.

A similar study was conducted by Hostetter et al. (2006), who also provided evidence that teachers can intentionally alter—that is, increase or inhibit—their gestures production during communication with students. It is apparent that every teacher spontaneously uses gestures with speech, but nuanced explanations of how to use gestures effectively are elusive. In the experiment, "six teachers taught a brief mathematics lesson three times, once without any special instructions, once attempting to use gestures to link ideas, and once attempting to inhibit all gestures" (p. 1523). The data showed that teachers can intentionally alter their gestures during instruction, as well as reinforced that interventions regarding teachers' gestures are feasible. In other words, teachers can "bring their gestures under conscious control" (p. 1528) and learn how to use gestures effectively in instruction. While teacher education methods courses already place emphasis on verbal skills in pedagogy, this line of research could call for the inclusion in teacher preparation programs of a more robust instructional focus on the use of bodily techniques during teaching.

Teaching is something one does with the body as well as with the mind; this understanding is perhaps particularly important in teaching children. Hostetter's (2011) meta-analysis examined the effect sizes of 63 samples. Through comparing listeners' understanding of a message when speech was presented with and without gestures, Hostetter found that gestures do provide a significant aid to communication. Several factors were identified as having an impact on the magnitude of this effect, one of which was the age of the listeners. Based on Hostetter's meta-analysis, children benefit more from gestures than do adults. Hostetter addressed this question in two ways. Firstly, the children have less developed verbal skills than adults and teenagers, so they may benefit more from speakers' gestures because the gestures can easily clarify words or abstract ideas that they have difficulty understanding. Secondly, gestures help to attract children's attention and make them more engaged in the spoken message. According to Hostetter's suggestion,

> Teachers may be able to use gestures as a powerful tool for enhancing their instruction, particularly in math and science courses in which much of the content has spatial or motor properties. (p. 310)

His findings are particularly significant for early childhood teacher education, providing evidence that increasing the use of gestures along with instruction is beneficial for children's understanding and learning.

Withitness and Overlapping

Teaching presence and alertness are important parts of a teacher's embodied practice. In discussing teachers' alertness, we have to mention two terms, "withitness" and "overlapping," which were coined by Kounin (1970). Withitness is the crucial ability of a teacher to demonstrate that s/he knows what is going on in her classroom. As Kounin defined it,

44

"Withitness is a teacher's communicating to the children by her actual behavior that she knows what the children are doing, or has the proverbial 'eyes in back of her head" (p. 80-81). In other words, teachers who have withitness can notice crucial signs of understanding, confusion, or distraction and give individual and direct responses to students. In addition, the teacher with a high level of withitness detects and deals with the most serious incidents first and intervenes early and quickly before the misbehaviors spread. This ability of monitoring and detecting deviation from expectations not only happens when the students are doing group activities, but also while students are doing individual work. For one thing, the teacher identifies distractions in the classroom and takes action to put a stop to misbehavior; at the same time, the students are given the impression that the teacher knows what they are doing, which reduces disruptive behaviors.

When Kounin (1970) talked about discipline and group management in classrooms, he coined another term "Overlapping—attending to two issues simultaneously" (p. 74). He explained,

> The code for overlapping was designed to answer on question: When the teacher is confronted with two issues simultaneously does she attend to both during the event or does she not? In this code, we were not concerned with coding how she handled the issues …… but merely with whether she manifested some act that evidenced her paying attention to both issues or to only one of either of the two issues. The act of 'attention to' might be a remark, a direction, or a simple look. (p. 86)

For example, the teacher can help a student with an individual project; at the same time, she may pay attention to other students' discussion in a small group. The teacher can thus deal with an interruption effectively while keeping an eye on what's happening across the classroom or group.

According to Kounin's study, both withitness and overlapping are significant to managerial success in the classroom. Withitness is more important, because it is highly correlated with children's behavior. Also, these two aspects of teacher style correlate with each other: "the teachers who manifest more withitness also tend to be the teachers who show more signs of actively attending to two issues simultaneously when two issues are concurrently present" (p. 88). Improvement in both areas is crucial for pre-service teachers.

In most studies, the camera only focuses on the pre-service teachers, but Snoeyink (2010) conducted his research in a different way that brings a new perspective to bear on the use of video self-analysis. He videotaped eight pre-service teachers four times each during their student teaching, but he used one camera to focus on the pre-service teachers, and another to focus on their students. After viewing the videos of their own teaching and their students' responses, those pre-service teachers felt that the video self-analysis helped them notice the student-teacher interactions, watching their teaching through their students' perspectives. Snoeyink also emphasized that it can improve pre-service teachers' "withitness":

> What is going on in her classroom, notice subtle signs of understanding or confusion, respond personally and directly to individual students, and make students aware that she knows what's going on as though she had the proverbial eyes in the back of her head. (p. 101).

In other words, teachers who have withitness can monitor their classroom by scanning the students constantly with their eyes, such that students always feel the attentive presence of the teacher. Follow-up studies by Charles (1996) and Marzano (2003) suggested that this kind of withitness abilities can be learned and improved by teachers. Their findings are important for this study in consideration of whether bodily techniques of teaching, including those associated

with withitness, can be learned, practice, and improved by pre-service teachers in their teaching and manage their classroom.

Copeland (1987) did a study to test the correlations between teacher's management behavior and student's on-task behavior. In his research, he also considered the importance of teachers' withitness and overlapping skills, noting that these two skills "can be acquired and can be improved upon" (p. 220). Copeland designed a "classroom drill game" to test whether there was a relationship between two information processing skills—vigilance (withitness) and multiple attention (overlapping)—and whether they were helpful for classroom management. One useful implication Copeland drew from this study was that "[t]eachers, or at least student teachers, differ greatly in their multiple-attention and vigilance abilities…the performance of which can be improved with practice" (p. 32-33). The impact of teachers' alertness on classroom discipline includes both student's behaviors and their learning; since many pre-service teachers struggle in particular with classroom management, pre-service teachers may consider prioritizing the development of related embodied practice skills, such as the strategic use of gaze and gesture to convey multiple attention (overlapping).

Berliner (1988) did a study to understand the skill learning process of teachers. He asked novice and experienced teachers to view videos or slides and then asked them to describe the depicted scenes; based on their descriptions, he explored their differences in the areas of:

(1) Interpreting classroom phenomena; (2) discerning the importance of events; (3) using routines; (4) predicting classroom phenomena; (5) judging typical and atypical events; and (6) evaluating performance, responsibility and emotions. (p. 3)

Areas (2) and (4) overlap with Kounin's concept of "withitness."   For example, the participants looked at slides of a classroom scene very briefly—less than 1 second for each slide—and were

47

asked what they saw. The novices described the scenes clearly and accurately; in contrast, the experts' responding were not just literal descriptions of the situations, but more organized and focused on the important aspects of the scenes from a pedagogical standpoint. Areas (1), (5), and (6) describe a teacher's "overlapping" ability. For example, when viewing short video clips (just a few seconds), experts monitored the sounds from both the teacher and the students more accurately than did novice teachers. His study not only provided evidences of particular differences between novice and experienced teachers, but also explained how the novice teachers learned these kinds of pedagogical skills by tracking their progress in the following years.

Materiality in Teacher Education

Children's learning cannot be separated from objects/materials; throughout education history, from Froebel's gifts and Piaget's manipulatives to contemporary child-sized furniture and online learning systems, many educators have embraced the importance of object-based pedagogy and the use of materials in early childhood institutions (Curtis & Carter, 2003; Driscoll & Nagel, 2002; Lascarides & Hinitz, 2000; Wolfe, 2002). There are many studies that touch on the topic of using technology or materials in school settings; however, humans are still the main concern in these studies. The central questions are how technology can support students' learning and make learning more efficient or meaningful. However, just as embodied practices should be given more attention, it is also valuable to focus more attention on the effects of materiality. There is also a need to explore how to improve teachers' ability to manipulate materials as part of their instruction and to interact with students through materials.

In "The Time of Materiality," Sørensen (2007) appropriated the ideas of several philosophers and social scholars, included Latour, and defined "material" and "materiality" as follows:

"Material" is discussed as synonymous with "object," "technology," or "thing," and often "materiality" refers to the "physical" aspects of entities or simply to anything "non-human"… We may understand materiality as the formed pattern in which a particular entity takes part and which allows it to relate in particular ways to (an)other particular entity(ies). (pp. 3-4).

Based on a study in a primary school classroom and computer lab, Sørensen analyzed the use of three materials: the blackboard, a bed-loft and an online 3D virtual environment. Sørensen put forward a perspective on time, space and materiality as a core trinity, and she argued relational materiality should be studied in spatial terms. In Sørensen's analysis, all materials in the classroom are rational and spatial and influence teachers and students' behaviors.

Some educators argued that the significance of materiality to education has received little attention. As Waltz (2006) claimed,

As inescapable as things are in the learning process, the Educational Foundations have largely neglected to elaborate a framework with which to take full account of their involvement. This is especially curious given the serious work that has gone into the development and use of things as educational tools. (p. 52)

Waltz's paper drew attention to the missing discourse on non-humans as social actors and called for people to place a greater emphasis on the interactions of humans and nonhumans in education research.

In Sørensen's (2009) book, *The Materiality of Learning: Technology and Knowledge in Educational Practice*, technology played the leading role as she addressed the following questions:

How digital and traditional learning materials influence educational practice in general, and how they contribute in particular to shaping different forms of knowledge and varieties of presence. (p. 8)

Chapter three, "Forms of Technology," takes up a discussion of the active roles of different forms of educational technology, with their rationality and spatiality in view. In her study, space is a plural term, and spaces are created by human creativity and interaction; they are containers for human actions, in which materials are resources for or resistances to humans. As Sørensen claimed, "space consists of emerging relational formations in which human and nonhuman components may take part, and the components that do take part contribute to performing these spatial formations" (p. 75). Pre-service teachers interact with students through spatial relations, not only among people—the teacher and her students—but including the relationships between people and materials, such as tables, classroom settings, and even a book that a teacher interacts with in storytelling. Sørensen also introduced Mol and Law's spatial metaphors, which are helpful to consider certain patterns of relations:

Mol and Law have developed four spatial metaphors (region, network, fluid, and fire) to emphasize that more than one space exists… Region makes us think of fields containing homogeneous entities; A network makes us think about elements that are connected; and fluid makes us sensitive to relations that vary and mutate. (p. 75)

Therefore, the term, space, is used not only in the conventional sense of three-dimensional space, but represents an invisible relationship among different people and between people and materials. Such relationships are unstable and fluid. For example, a teacher makes a student who always misbehaves sit close to her, or a teacher positions herself between two students to stop their conflict.

Burnett (2011) cited a pre-service teacher's reflection on how the computer's location might be relevant to teaching and learning identity and practice, and noted:

> The material dimension of educational space relates to its physical organization—its division, for example, into classrooms, corridors and other areas, and the people and artefacts contained therein. This may have implications for how technology is integrated into classroom practices, and reflexively for teaching and learning identities and the power relationships they sustain. In this dimension (material dimensions of educational space), the nature and site of equipment may be significant to the space produced. (p. 218)

This literature provided a thoughtful discussion of the relationship of positioning to teaching practices. This study drew on pre-service teacher's narrative reflections on classroom practices to explore the relationships between three dimensions of educational space—material, connected and textual—to suggest how to promote network technologies in education. He raises an argument similar to Sørensen's (see above) that the fluid relationships in classrooms and other spaces influence teaching and learning.

Presently, many initial teacher certification programs in early childhood education are undergoing a transformation, and the state of Georgia has a policy in place to use edTPA as a performance assessment at the state level for program completion and as a licensure requirement; therefore, an important next step is to identify future research questions and explore new ways for implementing edTPA in teacher preparation programs. Preparing new teachers is more challenging than ever. Simply to change the primary assessment procedure, programs need to spend a lot of time to decide how to reorient their work and to invest a mass of effort and resources to adjust practices for the many unforeseen changes that result from the switch. In

reviewing and integrating existing literature in this discussion, we have found the main emphases and gaps in research on the use of videos in teacher preparation programs, explored how to create new roles for videos, and discovered ways of bringing academic, professional, and community-based knowledge together in the teacher education process.

CHAPTER 3

DESIGN & METHODOLOGY

Introduction

The Educational Theory and Practice (ETAP) Department at UGA offers a four-year bachelor's degree program leading to initial teacher certification that ranges from Pre-K to 5th grade. For the first two years, students take general education courses. In the last two years (four semesters), they take their professional courses focusing on early childhood and elementary education and complete 800 hours of field experience in local schools (these four semesters in this program are called blocks one through four).

ETAP places the pre-service teachers in the local preschools and elementary schools, where they actively observe, assist teachers, and tutor individual children or small groups before they eventually take responsibility for planning and teaching in their final semester of field experience. All field experiences are linked to subject-specific pedagogy and early childhood education courses. During their first block, teacher candidates spend time in a local community setting (like trying out public transportation or visiting a local library). In the second block, the students are placed in pairs in a Pre-K and elementary classroom for two days per week. In the third block, pre-service teachers spend two full days per week (13 weeks) and one full week by themselves in an elementary school classroom. In the final block of the program, pre-service teachers spend 10 full weeks in a K to 5th grade classroom to finish their field experience.

UGA has participated in the field-testing of edTPA since 2013, but the pre-service teachers who started their field experience in the spring semester of 2014 (and graduated in the

fall semester of 2015) were the first cohort of students at UGA to be required to use edTPA as their teacher certification assessment. In response to the new edTPA requirements in Georgia, UGA's Early Childhood Education program has been adjusting its teacher preparation curriculum. Since the 2014, some ETAP instructors and faculty members have been attending training sessions to become evaluators of the edTPA program; UGA has organized several workshops to introduce the edTPA program to education departments, and the students also attend an edTPA workshop before they begin their students teaching.

In this early stage of implementing new teacher assessment procedures in our ETAP program, there is a need to conduct further research on the impacts of edTPA on pre-service teachers' teaching performance, explore ways to improve pre-service teachers' learning and teaching, and uncover some new insights on how course curricula might be revised. According to Merriam (1998), "Qualitative researchers are interested in understanding the meanings people have constructed, that is, how they make sense of their world and the experiences they have in the world" (p. 6). Therefore, this research explores the development in pre-service teachers' performance with a fully implemented edTPA program now in place. This investigation of the impacts of video assessment on teacher preparation was conducted as an interpretive task utilizing video-cued multivocal ethnography, microanalysis of video, discourse analysis, and content analysis methodologies.

Research Design

Participants

About 75 students are registered in the Initial Teacher Certification Program in Early Childhood Education every year. These students are divided each semester into three sections, with each section including around 25 students who take courses together. They are reshuffled

into new sections each semester. My participants included 23 of the 24 students in one of these

three sections (all but one student in this section consented to participate in this study). Aged 19-

22, all were female; nineteen were White, two were African-American, one was Latino, and one

was Asian. The participants began their first block in the spring semester of 2014; the study

began with their second block, in the fall semester of 2014, and ended when they finished their

student teaching in Fall 2015.

The other important group of participants in my study consisted of university supervisors

and instructors. I conducted a focus-group interview with four university supervisors who were

doctoral students in the ETAP department, and who had been teaching assistants and supervisors

in second or third block courses. I did an additional focus-group interview with four UGA

faculty members who were instructors of the core teaching methods course (EDEC 4020:

Principles and Practices in Early Childhood Education) that my participants were required to

take in their second block, and some of them were supervisors for the third or fourth (student

teaching) block. In these two focus-group interviews, I asked them to watch the students' videos

and discuss the criteria they would apply in evaluating them, as well as their thoughts about the

impacts of the edTPA video component on pre-service teachers' learning.

In this research, each research participant has been reviewed as both an insider and an

outsider. Balancing the points of view and identifying the insiders and outsiders of a culture or

context is not easy. As Tobin and Hsueh (2007) stated,

> Most ethnographers are stories of the cultural beliefs and practices of a group of insiders
>
> written by outsiders for other outsiders to consume. The people studied and videotaped
>
> by ethnographers are rarely considered an important audience for the research… Making

a video that can be understood, enjoyed and found both believable and provocative by

insiders as well as outsiders to the culture is a tough task. (pp. 85-86)

Each participant was not only a person who was studied, videotaped, or interviewed, but also an

important informant for the research and an expert on his/her own practice. The pre-service

teachers' reflections, and their instructors' feedback and comments during the interviews made

up a crucial part of the data. Additionally, the video evidence of the pre-service teachers' bodily

techniques was also a significant source of data in this research.

The participants' perspectives played an important role in this research for several

reasons. First, pre-service teachers (the primary participants for this research) traditionally lack a

formal opportunity to speak out about their experiences; however, their expectations, attitudes,

and experiences are central to understanding the effects of video in teacher education programs.

Second, the main subjects of the videos are pre-service teachers. Video served as a tool for

microanalysis, because it recorded the student teachers' voices, body movements, facial

expressions, gestures, and even the whole context of their classrooms. The videos also supplied

cues for interviewing, as they offered a visual aid for the questions, served to stimulate memory,

and provoked reflection, placing more attention and scrutiny on the visible aspects of teaching.

In focus-group interviews, the video clips were shown to the pre-service teachers and to

supervisors and instructors in the ETAP program to prompt their reflections about the video, as

well as about the new changes in the program. All of these participants brought impactful

notions of teaching and teacher preparation to bear on this research.

The Research Sites

Pre-service teachers are placed at partnering local schools where they take on gradually

increasing teaching responsibilities. Second block students are placed in pairs in a Pre-K

classroom for half a day per week, and in a K to 5th grade classroom for one whole day per week. There were only two preschools used for field placement with this section of Block 2 students. One was the Child Development Lab at the McPhaul Center, located on the UGA campus. It was established in 1927 and is now operated by the Human Development and Family Science Department at UGA; it provides services for children aged 8 weeks to 5 years. Twelve participants were placed there in five multi-age (3 years old and 4 years old by September 1st, 2014) preschool classrooms. The other one was the University Childcare Center, which is also located on UGA's campus. It is a brand new preschool and serves for children aged 6 weeks to 4 years. Eleven participants were placed there in three multi-age (3 years old and 4 years old by September 1st, 2014) preschool classrooms.

In one of their methods courses (EDEC 4020), the pre-service teachers were given an assignment to record two videos of themselves teaching in a Pre-K classroom—one to be submitted for their midterm, and another for their final. Only the videos taken in the local preschool classrooms were used in this research (videos recorded in block 2, excluding videos recorded in elementary schools), for the following reasons. First, during their second block, pre-service teachers have their first field experiences in real classrooms. Even though they just stay in the classroom a half of a school day per week, this field experience provides a good chance for pre-service teachers to begin the transition from campus to school, from theory to practice, and from "student" to "teacher." Second, the second block is pre-service teachers' only chance to be placed in a preschool classroom; after that, all of their field placements will be in elementary schools. Therefore, it is a valuable opportunity for them to gain experience working with young kids. Last, the preschoolers are in Piaget's "sensorimotor stage," so teaching them requires more

use of bodily teaching skills than does working with older students; therefore, it is an important chance to study pre-service teachers' embodied practice in a preschool setting.

Design

This study employed a qualitative ethnographic technique. The main source of data for the study was the first set of video portfolios made by pre-service teachers in their second block in ETAP's early childhood education program. This research addresses a timely topic, since UGA's teacher certification programs have been fully implementing edTPA as their primary teacher assessment, with the first group of pre-service teachers to participate in edTPA "consequentially" (i.e., with edTPA as a binding certification measure) having graduated in the fall semester of 2015.

In their second block, these pre-service teachers, as early childhood education majors, were required to attend a teaching methods course and were placed (in pairs) in Pre-K and elementary classrooms two days per week. These students needed to finish a "mini-edTPA" assignment during their midterms and finals as part of their methods coursework. For this assignment, they were required to take videos of themselves teaching during their internships in Pre-K classrooms and were asked to include these videos as part of their final teaching portfolios. The videos made in the internships were typically five to fifteen minutes long and were recorded on small cameras, iPads, or phones. The focus of the videos is on the pre-service teachers and not on the students in the class. The pre-service teachers were also asked to write reflections both on the lessons and on the experience of being videotaped. For their midterms and finals, students submitted their lesson plans, video clips, and narrative reflections. I was a TA and supervisor in this teaching methods course. These twenty-three pre-service teachers' videos and reflections were collected in the fall semester of 2014 (Block 2).

After collecting the videos and reflection papers, the next step in this research involved the video-cued multivocal ethnographic method. Tobin, et al. (1989) applied this method in their study, *Preschool in Three Cultures: Japan, China, and the United States*. Tobin and Hsueh (2007) claimed that, in this method, "the videos function primarily neither as data nor as description but instead as rich nonverbal cues designed to stimulate critical reflection" (pp. 77-78). I used scenes from the videos as visual prompts (or "cues") to guide the focus-group interviews. Different video clips were used with different focus-group interviews. For pre-service teachers' focus-group interviews, I chose a twenty- to thirty-second video clip from each group member's midterm or final video, combied all the clips into one video, and showed it at the beginning of the group interviews. For the group interviews with university supervisors and instructors, I edited a five-minute video from all participants' midterm or final videos. I attempted to include video clips that would clearly demonstrate the widest range of bodily techniques.

The focus-group interview questions addressed: (1) what the videos captured and failed to capture; (2) how videos could be used to improve pre-service teachers' performance, embodied practice, and notions of teaching; and (3) the concerns and attitudes of participants towards video as an assessment method (such as the edTPA video requirement). As a supervisor of one section of block 3, I had the chance to work with these 23 pre-service teachers in their third-block class again. Even though they were shuffled into three different sections, each section had around 6-7 of the participants from my block 2 class. After having collected and reviewed the videos and reflection papers from block 2, I conducted the focus-group interviews with the pre-service teachers after midterms in block 3, which meant that participants had

received further instruction and gained more experience in their block 3 field placements at the time of the interviews.

Lastly, during the pre-service teachers' fourth block, I conducted focus-group interviews with university supervisors, as well as instructors of EDEC 4020, (a teaching methods course). I showed the selected video clips to the interviewees at the beginning of the group interviews and discussed how videos impact notions of teaching and teacher preparation (including the three items listed above).

<div align="center">**Data**</div>

Data Collection Methods

The various data used in this study were collected in the following ways. Qualitative data in the form of pre-service teachers' lesson plans, their narrative reflections on their teaching experience, and video clips of their teaching were gathered from the pre-service teachers in their second block of ETAP's Early Childhood Education program. The data from the focus-group interviews with pre-service teachers were gathered during their third block. The focus-group interviews with supervisors and instructors were conducted in the fourth block. The focus-group interviews were videotaped.

I chose videos as the main data source in this research for several reasons. Firstly, video is a core requirement of edTPA and of the EDEC 4020 course in the ETAP early childhood education program, and as such it needs to be better understood in terms of its effects and applications. Secondly, the camera can preserve more information than participant observations or field notes, and the videos can provide a fuller context for analysis and as an aid in the interviewing process. Thirdly, videos record not only the verbal data, but also non-linguistic information, such as body movement, behaviors, gestures, facial expressions, and positions

within the space. Moreover, not only can the camera capture the physical space, but it also

provides a window into the relationships and intangible dimensions of the classroom—"a

complex choreography of consciousness, body and senses" (Grimshaw & Ravetz, 2009, p. 542).

These nonverbal data are valuable and productive for generating fruitful research

questions, especially when they are connected with verbal data. In addition, if I had taken field

notes using a participant observation method in place of video, I might have missed some points

and would never have been able to address them (whereas with video, I could review clips

repeatedly and continue to draw out more observations).   Thus, in this study, I used video to

micro-analyze the pre-service teachers' embodied practice, and I also used video as a cue for

conducting the focus-group interviews.

Video-cued multivocal ethnography. The video-cued multivocal ethnographic method

was developed by Tobin et al. (1989) in *Preschool in Three Cultures: Japan, China, and the*

United States. Tobin got the original idea of using videotapes as a cue for interviews from the

ethnographic film, *Jero on Jero: A Balinese Trance Séance Observed* (1981), made by

anthropologist Linda Connor and ethnographic filmmakers Timothy and Patsy Asch (1986).

They first videotaped a Balinese medium, Jero, who entered a trance state in order to help a

grieving family make contact with their dead son, and then later showed her the film of herself

and asked her to comment on her actions (Asch et al. 1983; Connor et al. 1986; Tobin, Wu, &

Davidson, 1989; Tobin, Hsueh, & Karasawa, 2009). Asch (1995) suggested that sharing films

with informants "allows us to get valuable feedback on our interpretations" (p. 349).

Accordingly, I used the edited videos as visible cues for asking questions to my interviewees.

In participant observation, the traditional ethnographic method, the researcher spends

time participating in and observing the daily activities of insiders' culture and taking field notes,

61

after which s/he asks the informants to reflect on and explain those activities. The video-cued method of Tobin et al. replaced participant observation with video-recording. As Tobin and Davidson (1990) stated,

> This research approach was designed to empower informants by replacing traditional ethnographic authority with polyvocality, and to decenter the text from its authors by shifting the power of reflexivity from the metadiscourse of the ethnographer to the understandings of preschool children, teachers, and administrators. (p. 272)

The informants' reflections are rarely taken into account in traditional ethnographic research; in contrast, the video-cued multivocal ethnographic method empowers informants.

The video-cued interviewing method gives interviewees the opportunity to share their own ideas and perspectives, rather than leaving their perspectives to the speculation/ interpretation of the researcher. I showed a video montage edited from each student's midterm or final video at the beginning of the group interviews with pre-service teachers. First, the videos helped their recollection of that video assignment. Also, during the interviews, the video clips gave them some cues to talk about their feelings and respond to others' experiences. In addition, having already begun their third semester, many had since adjusted their perspectives, and so could offer criticism of their fomer teaching practice. The videos provided a good opportunity to observe, review, and comment on their own and others' behaviors.

The video-cued multivocal method is crucial, because it can engage a wider audience and gather diverse feedback. As Tobin (1989) explained,

> Video is not more objective or less artificial or inherently more democratic than written text, but it is generally much more accessible to audiences… As a medium for dissemination as well as research, visual ethnograpy has a potential to reach and engage a

much wider audience than we could hope would read even our most lucid, least jargon-

laden written texts. (p. 175)

Block 3 students watching videos of themselves from Block 2 may be critical of the earlier

versions of their teaching practice. The supervisors and instructors reviewing the students'

videos may see progress in the pre-service teachers' performance. As MacDougall (1998) wrote,

"How we interpret [a video] depends upon who we are and what assumptions we bring to it" (p.

212). According to Macdougall, the audiences "are invited to participate in creating the meaning

of each shot by recognizing its narrative or expository center" (p. 213). For example, I showed

the same video and asked the same questions in the group interviews with supervisors and

instructors; however, due to their different roles and responsibilities, I got different answers.

Video-cued focus-group interviews. Another qualitative method employed in this study

has been the use of focus-group interviews. In this method, the interviewer conducts group

interviews to gather the qualitative data through directing the interaction in the group in a

structured or unstructured manner. Focus-group interviews are intended to make a group of

peers provide qualitative data related to the research topic in a comfortable environment, under

the guidance of the researcher and/or through group discussions (Krueger & Casey, 2000;

Fontana & Frey, 1994). One of the main benefits of focus-group interviews is that participants

can share their ideas with other people in a comfortable way. As Krueger and Casey (2000)

stated "The researcher creates a permissive environment in the focus-group that encourages

participants to share perceptions and points of view, without pressuing participants to vote or

reach consensus" (p. 4). In focus-group interviews, the people are grouped with others who have

certain characteristics in common, so it is an effective way to understand the shared culture and

values in their community.

For the purposes of this study, another reason I have preferred focus-group interviews to individual interviews is that, with group discussion, it is easier to bring out multiple voices and ways of thinking. Video-cued focus-group interviews are highly applicable to research on the multiple perspectives of people who come from different groups and who may have varied assumptions on the topic being discussed.

I used iMovie to edit the video footage and used the edited videos to conduct the focus-group interviews. For the focus-group interviews with pre-service teachers, I chose video clips lasting around twenty to thirty seconds from each student's mid-term or final video, combined all the group members' video clips into one video montage, and showed it to them at the beginning of the group interviews. I showed each group different edited videos according to which pre-service teachers were present so that the participants could review their own videos as well as their classmates' videos. Video functioned as an effective stimulus to prompt the discussion among the participants. For the focus-group interview with supervisors and instructors, I chose some representative video clips related to my research questions; this video montage was just short of 5 minutes in duration.

I showed videos with and without audio to different audiences, and found that people paid attention to different aspects of performance when they watched the videos with audio vs. without audio. Krauss et al. (1981) conducted two studies to investigate the extent of the variance in observers' judgdments in this regard. People communicate through verbal and nonverbal channels, and full-channel (i.e., audiovisual) presentations and single-channel—i.e., verbal (written transcripts), vocal (content-filtered speech), or visible (silent video) information —presentations have different impacts on people's judgements. They suggested that there can be no "straightforward effects" when subjects have access to different channels; however, "it

depends on the sort of judgment the subject is asked to make, the particular setting, and even the configuration of cues among channels" (p. 319). Therefore, when I turned off the sound of the video—which turns off the verbal and vocal "channels"—the interviewees paid more attention to pre-service teachers' visible, embodied practice, since this method (of necessity) made people more aware of the visible, nonverbal aspects of teaching. Before the pre-service teachers did their final assignment, we used this method in the teaching methods class to make them more aware of embodied teaching and encouraged them to review their final videos with and without audio. Some participants followed our suggestion, and their reflections are particularly valuable data for this study.

Student Portfolios. Participants' lesson plans are also a part of the research data. They helped make me aware of the content/context of the lessons, the teaching materials, and the overall teaching plan before I analyzed the videos. Through students' lesson plans, I could know their thoughts and concerns about designing a class, which helped me think about how they might apply their embodied pedagogical knowledge to their lessons and teaching. Also, planning lessons is another important part of pre-service teachers' methods course, which allowed me, as their instructor, to see how instruction on embodied teaching affected their lesson planning. Moreover, through comparing their lesson plans and their actual lessons as recorded in the videos, I found out whether or how the requirement of videotaping may have influenced the lessons that students had planned.

Another important ethnographic tool that was used in this research is the narrative reflections that pre-service teachers wrote after they video-recorded themselves. Their reflections about the lessons they taught and their experience of being videotaped make up a crucial part of the data. As McEwan (2002) stated, "reflection is the examination of one's

65

teaching practice in a thoughtful and even critical way, learning from this process, and then using what has been learned to affect one's future actions" (p. 117). After each videotaping, the pre-service teachers reviewed their own videos and gave feedback and comments about themselves, which provided them with a chance to share their ideas and feelings about their own performances.

Additionally, most of them had never seen themselves teaching in a video, and they did not know what their teaching really looked like. In fact, in the narrative reflections, pre-service teachers not only reflected on the process of teaching the lesson—such as the lesson planning and concerns for how they could improve in areas of weakness—but also on the process of being videotaped. For example, how should they teach in front of the camera? Do they feel embarrassed, self-confronted, or excited about being videotaped? These reflections are also a part of the portfolio that they need to submit to the edTPA evaluators, together with their video recordings. That the pre-service teachers must "[s]ystematically reflect on teaching and learning to improve their own practice" is a portion of the rubric which comes from the *Georgia Framework for Teaching* (Domain 6 – Professionalism). The pre-service teachers not only need to demonstrate that they are ready for teaching, but also that they have the capacity to reflect on their own teaching and know how to improve their own practice. Also, I could get pre-service teachers' thoughts on the video assessment, the usefulness of the course assignments, and concerns about edTPA through their relfections, apart from the focus-group interviews.

Qualitative Data Analysis

I have made use of three types of data—videos, narrative portfolios, and focus-group interviews—each analyzed using different methods. I selected video-microanalysis and content analysis as my primary means of analysis.

I was interested in how the pre-service teachers would improve their bodily techniques and develop professional teaching skills through the video-recording course assignment. For the most part, pre-service teachers have learned embodied skills through experience rather than in teacher preparation programs. They learn this kind of knowledge—such as gaze, facial expressions, posture, pitch of voice, location in the classroom, how to pace and sequence questions, and how to talk as a teacher—from their mentor teacher and their real experiences in the classroom (not to mention their general life experiences). Video microanalysis helps us observe the subtle, fleeting details of those nonverbal aspects of teaching as they are manifested in the classroom.

Videos. By isolating vignettes and using QuickTime and iMovie, I slowed down the video in order to identify patterns in their body movements. For each participant, I reviewed her midterm video from start to finish, recording a detailed log of the lesson and noting the minute/second(s) of key moments. This same process was applied for each final video submission. For each pre-service teacher, the logs of their midterm and final videos were recorded in one combined document in Evernote. Next, I used Excel to code these notes for instances/evidence of the following: embodied aspects (gesture, posture, touch, voice, facial expressions, gaze, use of materials, positioning, and presence/withitness), non-embodied aspects (teacher's decisions and waiting time/pacing), and other aspects of the lesson (positive/ negative influences of videos or difficulties encountered in the lesson). In order to clearly distinguish the data sources, I used different-colored text in the Excel file to designate material from the midterm and final videos and indicated the name of the participant beside each piece of content. Through preliminary microanalysis of videos, I also chose some key scenes of pre-service teachers' teaching, which helped me to gain an initial impression of their use and development of

bodily techniques from their midterm to their final. I coded and transcribed these key scenes for the next step of analysis.

       Narrative reflections. I did content analysis of the narrative reflection papers that accompanied the videos. Their reflections constituted the most important part of their portfolios. I used a separate but similar Excel table to classify their reflections into three categories: embodied aspects (gesture, posture, touch, voice, facial expressions, gaze, use of materials, positioning, and presence/withitness), non-embodied aspects (teacher's decisions and waiting time/pace), and other aspects of the video (positive/negative comments on videos, comments about being videotaped and reviewing the videos, feelings towards edTPA, reflections on improvement from the midterm to the final, and remarks on reviewing the videos with and without audio). Again, I noted the source of each quotation and used the same color-coding strategy.

       Focus-group interview data. As has been mentioned already, I used the videos not only for the above analysis but also as cues for focus-group interviews. I used a camera and a sound recorder to record each interview. I transcribed all of the interviews and performed content analysis of the transcriptions. I coded the results of the content analysis of the interviews in the same Excel table along with the data from the narrative reflections and used the same differentiated color-coding strategy as with the data from the videos and reflection papers.

       Sorting. After coding all the video, reflection paper, and interview data, I sorted the data, combining all the data into one Excel table for the next step of analysis. I sorted the data according to its relevance for the following categories: gesture, posture, touch, voice, facial expressions, gaze, use of materials, positioning, presence/withitness, non-embodied aspects, and comments on videos/course assignments/edTPA. When excerpts from the video data overlapped

with data from their reflections (i.e., they referred to the same instance in the lesson), I put these data in adjacent slots in the table. Also, I sorted data pertaining to the same coded categories together and assigned group tags. For example, I put all the data related to the "use of facial expression to encourage students" together and assigned the tag, "encourage," to this group.

Statistic analysis. I used some simple descriptive statistical analysis for each of the participants' videos and reflection papers to identify and count the categories of bodily techniques they employed in their lessons. For a different purpose, I counted and calculated the bodily techniques' frequency using a different method. I give a detailed explanation of these methods in each relevant chapter in the analysis portion of this dissertation.

Position of the Researcher

I was a Teaching Assistant (TA) and supervisor in the 23 participating pre-service teachers' 2nd block classes, and remained so for 6 of them in their 3rd block. Anthropologists are outsiders to the cultures they study in traditional ethnography. However, in this research, I have had the opportunity to situate myself both as an insider and as an outsider. I have been a TA in both block 2 and block 3 classes for three years. I attended all the class sessions and supervised pre-service teachers when they were placed in the local pre-schools and elementary schools to complete their field experiences. As an "insider" in this respect in ETAP's early childhood education program for three years, I have had the chance to participate extensively in major-related courses with pre-service teachers. Also, talking and working with the instructors, professors, faculty members, staff, and other supervisors of the program has allowed me to know the program more intimately. Moreover, I have known and understood the real challenges and conflicts that take place in the field through my observation and discussion with pre-service teachers as their supervisor. Lastly, I have witnessed and taken part in the plans, decisions, and

69

deliberations that took place in adjusting the ETAP program and curriculum in teaching methods courses in the process of adopting edTPA at UGA.

However, I am also an "outsider" in another sense. First, as an international student, I have had to familiarize myself with the American education system in the course of my doctoral studies. In fact, the methods of training and evaluating new teachers are quite different in the US and in my country (China), which allows me to bring a different perspective into the discussion. Moreover, I am outside of the pre-service teachers' social group. Most of the time, the pre-service teachers do not see the supervisors as their peers; the supervisor is a person who may be evaluating them at any time. Supervisors and pre-service teachers belong to different roles and hold different views and preferences. Observing the pre-service teachers and interacting with them as their TA and supervisor, I developed an insider's perspective as a part of the ETAP program; on the other hand, I stayed on the periphery of the pre-service teachers' group as an outsider.

CHAPTER 4

USING THE BODY AS A TEACHING TOOL

"Using touch was helpful for me to bring back the attention of certain students when I could tell they were drifting. There were a few instances where I touched students and quietly encouraged them to refocus their attention."

—One pre-service teacher's reflection on student teaching

Every teacher uses her body when teaching. Techniques of the body are an important dimension of interpersonal communication with students, a dimension that is most often deployed implicitly and even unconsciously, rather than with conscious intent or volition. When interacting with students, teachers use bodily techniques, even if they are unaware that they are doing so, and despite having little or no training in using their bodies pedagogically. Some might argue that these bodily techniques are so closely linked to personality—and so habitual and spontaneous—as to be nearly immutable. However, observing differences between experienced and novice teachers (e.g., how an experienced teacher can use her gaze to stop two children from quarreling or a change in posture to quiet down her class) suggests that embodied teaching practices are skills that teachers develop with experience.

My contention, therefore, is that paying attention to embodied practice can make a meaningful difference in the development of teaching expertise. As one pre-service teacher reflected in an interview on her video portfolio assignment:

71

I tried to think about it a lot when I was planning these lessons from last semester.

I feel like it helped me a lot about how using your gaze, your arms, and your

hands—I mean, just things like that "clap-pat-clap-pat"—using your actual body to learn,

I think that's a really good way to learn.

In this chapter I present evidence of how pre-service teachers use their bodies in their teaching, as well as how the class requirement to reflect on bodily techniques changed their classroom practice and their understanding of themselves as teachers. In the sections of this chapter, I (1) define and categorize pre-service teachers' bodily techniques, (2) present examples of how the pre-service teachers employed each of these bodily techniques in their Block 2 preschool placements, (3) use some simple descriptive statistics to show which bodily techniques the pre-service teachers used most often and which techniques they commented on most often in their reflection papers, and (4) the challenges they faced as they intentionally sought to employ certain bodily techniques in the context of being an intern teacher in another teacher's preschool classroom.

A Taxonomy of Participants' Bodily Techniques

We have familiar, conventional terms to describe many aspects of teaching, terms for describing features of lesson plans (e.g., goals, objectives, standards, assessments), types of lessons (e.g., lecture, cooperative learning, activity centers), and techniques for teaching oral routines (e.g., open-ended questioning, summarizing, wait-time). The bodily techniques employed by teachers, though they are a ubiquitous aspect of teaching, are less often discussed in textbooks, analyzed in studies of teaching, or talked about in discussions between field supervisors and intern teachers or among teachers, and therefore, as of yet, there is no standard nomenclature for these embodied techniques. In this section, I present a taxonomy of the bodily

techniques of teachers and provide examples of each, based on pre-service teachers' videos and video reflection papers.

Hands Gestures

Gestures of the hands, arms, and fingers were the most common body movements used by the pre-service teachers in this study. For example, teachers use their hands to model or explain certain terms, concepts, and words during instruction. For young children, a teacher modeling procedures or concepts during instruction and reading aloud is crucial for helping them to understand abstract concepts and to make the lesson more animated and attractive. In reference to the scenario shown in Figure 4-1, one pre-service teacher said,

> I have very heavy gestures, so I was able to use my hands a lot to talk and teach the children. This is one of my favorite things to do when I am teaching. Using my hands somehow makes me more interested in what I am talking about, therefore I feel like the children are paying more attention.

It is interesting that she refers to her gestures as "heavy," a loaded word that seems to evoke the sense that her gestures are something she does frequently, clearly, and dramatically.

Figure 4-1. Explaining the traditional attire of Native Americans.

Gestures are useful for introducing students to things they are about to learn and for cueing their memory of things they have already learned (as shown in Figure 4-2).

Figure 4-2. Discussing body parts: feet and arms.

Another basic use for gestures in teaching is to aid in giving directions or instructions to students (as shown in Figure 4-3). Students are easily distracted when teachers are giving explanations or instructions for an activity (in other words, while the students are not actually "doing" something); moreover, as the children in any given classroom will be at different stages of cognitive development (a phenomenon which is particularly pronounced in preschool classrooms), some students have significantly greater difficulty than others in understanding the procedures of an activity. Accordingly, early childhood teachers often need to use gestures while giving directions or explaining procedures.

Figure 4-3. Demonstrating procedures for a drawing and measuring activity.

Gestures are also a powerful tool for classroom management. For example, a teacher can tap the table in front of an individual student to stop an undesired behavior or to get his/her attention. A teacher can tap a chair or place on the floor to direct a student sit down or stay in his spot (as shown in Figure 4-4). When students are fighting over materials or handling materials improperly, a teacher can wordlessly deal with the issue by just placing her hands on the material or on the student's hands (as shown in Figure 4-5).
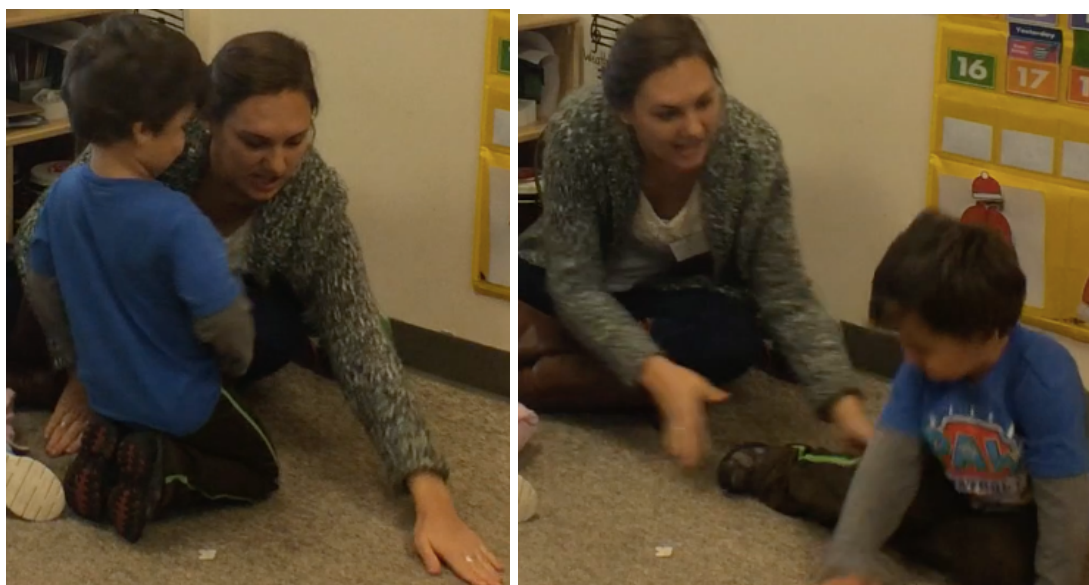
Figure 4-4. Directing a boy to stay in his spot.
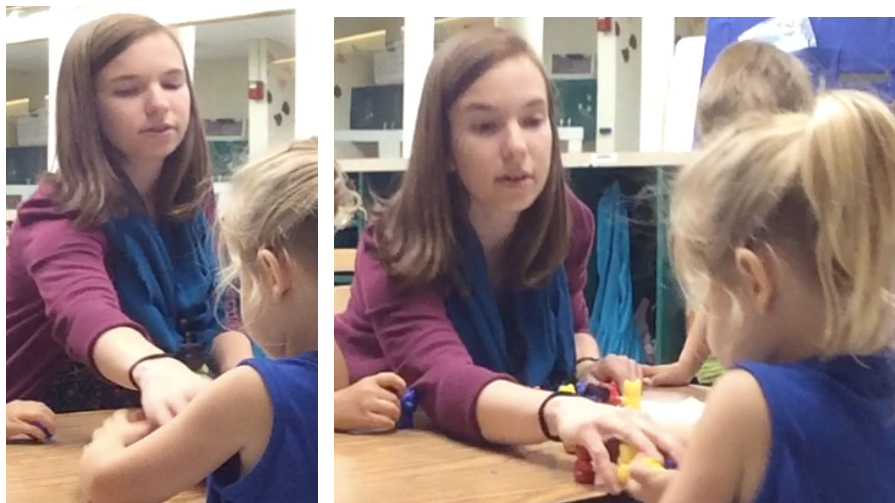
Figure 4-5. Stopping misbehavior.

Touch

Touch can be a highly useful bodily technique for teachers during instruction, particularly when working with younger children. For example, you can touch a student to stop his/her wrong behavior while staying in the flow of teaching, or you can use a touch strategy along with a verbal warning to halt the interruptions of individual students. Many pre-service teachers' wrote in their video reflections that they used touch to allow them to manage children's behavior without interrupting their lesson. Touch can bring an individual students' attention back to the lesson without creating a distraction for the other students. Touch, as a signal from the teacher, means: "The teacher's attention is on you; stop that behavior." The pre-service teacher shown in Figure 4-6 (below) reflected on her lesson as follows:

> By simply touching some children on the leg, it allowed them to understand I was still
>
> keeping an eye on them, even if I was listening to another student. By doing this I felt
>
> like I kept the students on task without distracting the others from the lesson.

Figure 4-6. Using touch to redirect students' attention to the lesson.

This pre-service teacher was just one of several who reflected on the usefulness of touch in this way. Through reviewing the videos and reading students' written reflections, it is clear that touch proved to be a powerful pedagogical tool during teaching and classroom management.

Another use for touch is to make students calm down, for example, by rubbing a student's back or gently patting a student on the shoulder. One pre-service teacher noted the usefulness of this strategy (with particular reference to the boy in the grey shirt pictured in Figure 4-7):

> I noticed that I touched students frequently on the arm or shoulder to communicate
> something to them. I do this most often with the boy beside me, as he generally needs a
> fair amount of reassurance during an activity. At moments when he is feeling frustrated
> or confused, I touch him on the shoulder as a means of calming him and refocusing his

attention. The use of touch, though unplanned, was an extraordinarily helpful

management tool during my lesson.

Figure 4-7. Calming down a student using touch.

This pre-service teacher saw touch as a way of helping this boy to calm down and prevent him

from distracting other students. In figure 4-7 we see her keeping her arm on a boy's back

throughout most of a lesson. When the boy was frustrated, began to cause disruptions, became

confused, or tried to snatch the materials away from others, the pre-service teacher put her hand on him to make him calm down and focus on the lesson, but still continued talking to the other students and teaching. This strategy proved effective in this lesson. Importantly, this pre-service teacher observed, in retrospect, that her use of touch in this lesson was "unplanned." This again speaks to the usefulness of video reflection, through which this pre-service teacher recognized her impromptu use of what turned out to be an effective application of touch.

Body Gestures/Posture

Gestures can be produced not only with the hands, but also with other body parts, such as the head, legs, or entire body. I refer to these "non-hand" gestures as "body gestures." Body gestures can have functions similar to hand gestures, such as modeling skills or concepts and giving directions to students. In addition, emotions can be expressed through body gestures and posture. Body gestures and posture are useful forms of expression for interacting with children. When teachers talk with individual young children, teachers are encouraged to crouch, kneel, or sit at students' eye level (as shown in Figure 4-8). As one pre-service teacher remarked during an interview,

> One thing that I remember we talked a lot about was getting on the student's level. That was something that I thought about a lot and made sure to do a lot more. I noticed in the videos that the students were a lot more receptive once I squatted down or I was sitting on the floor with them, and stuff like that.

Figure 4-8. Addressing individual students at their eye level.

A related posture is to lean toward students when talking with them, to indicate attention to an individual child (as shown in Figure 4-9). The implicit meaning of this posture is, "My attention is on you," or, "I am interested in what you have to say." The intent is to make the child feel engaged and valued. One pre-service teacher used this strategy well in a small group activity:

> I showed attentiveness to the students through my posture. I turned my body towards a
> specific student whenever he or she was communicating with me. I leaned forward to
> ensure that I could understand the student clearly. This implies to the students that I am
> attentive to what they are saying while also helping me focus better on one student at a
> time.

Figure 4-9. Leaning towards individual students.

Leaning is a useful bodily technique not just for individual children, but also for interacting with whole groups (as shown in Figure 4-10). When the teacher wants to catch the attention of the whole group or show them certain materials, she can lean in towards the middle of the group. Adjusting one's body gestures and posture in these various ways during teaching can effectively engage and attract attention from individual children or entire groups of children.

Figure 4-10. Using "leaning in" to address a group of children.

Body gestures and posture are forms of non-verbal communication that can convey meaning to others. Attending to posture in a video allows the viewer to ascertain the teacher's mood and feeling, whether she is relaxed, confident, or nervous. As one pre-service teacher commented: "I felt very relaxed, comfortable and calm. I felt this was showcased in my video with the way I handled my posture." Other video clips captured embodied displays of frustration or helplessness. As one pre-service teacher remarked:

> I can see a dramatic shift in my posture after having read the book; I think it's easier to sit with good posture when you're reading and all eyes are on you, whereas it's hard to know what to do with your body while the kids are working. In other words, my posture reflected my mood and what was going through my head.

A teacher's posture and gestures express and convey emotions, intentionally or unintentionally. For example, teachers' most commonly used body gesture to show encouragement and praise is nodding of the head. As another pre-service teacher wrote in her reflection, "I nod affirmatively multiple times when speaking to students. This practice indicates to the children that I am listening actively." Nodding is a positive response to students' answers, and it shows the teacher's affirmation and encouragement.

Facial Expression

The face is the most expressive part of the body, and it normally attracts the most attention. Facial expressions include movements, often quite subtle, of the eyes or eyebrows, lips, cheeks, and forehead. These facial movements were first categorized by Charles Darwin, in his 1872 *The Expression of the Emotions in Man and Animals*, and categorized more extensively by Paul Ekman (1985). Work by Darwin, Ekman and others show how different facial muscles combine to display such emotions as happiness, anger, disappointment, frustration, sadness, and curiosity. Facial expressions play a crucial role for teachers, especially when they communicate with children. To attract children's attention and engage them with the lesson, a teacher can animate her face with expression to complement the lesson material or certain situations. When reading a book to children, a teacher can perform facial expressions that reflect the emotional state of characters or the emotions the story produces in the audience. Most pre-service teachers are aware of this and use this strategy during teaching, as exemplified in Figure 4-11. Consider the example of the following two pre-service teachers' reflections: "I think that my face was animated and I conveyed many of my emotions through my facial expressions." Another wrote,

I felt that I had to be very animated if the students were going to be interested in what we were doing. Throughout the video I show emotions of confusion, surprise and excitement

that are evident in the furrowing of my brow, raising of my eyebrows and widening of my eyes.

Figure 4-11. Using facial expressions to engage students.

Teachers convey their emotions or attitudes—for example, indicating encouragement or praise—through facial expression. As one pre-service teacher explained, "I think this is how I give a lot of my encouragement—with my facial expressions to the students." Additionally, the teacher's facial expression is sometimes a hint towards what the teacher wants the students to do. As one pre-service teacher said, "I raised my eyebrows and also tried to make a "thinking" face when I wanted the students to think about the questions I asked them." However, facial expressions can also betray emotions a teacher would prefer to keep hidden from her students, colleagues or supervisors. Some pre-service teachers worried that their face conveyed too much and they lacked the ability to mask their emotions. As one pre-service teacher wrote in her video reflection:

I noticed when the students would do or say something funny that I would give them a funny look which could come across wrong if an adult watches me teach, so I need to make sure that I stay neutral.

Another pre-service teacher explained:

> [I]n other classes we have talked about how a smile can cause problems. If I had given a child that had a right answer a smile, and then turned around and didn't [smile] when a child had a wrong answer, then my children would automatically know when someone was right or wrong, or who had a "good or bad" answer.

Because teachers convey meanings to their students through facial expression, teachers may need to control their facial expression at times to avoid conveying the wrong message to students. Teachers' use of facial expressions—as the most ubiquitous form of embodied teaching practice—is easily noticed by students and can have a major impact on them. Facial expressions are one of the keys to conveying "withitness," which I will discuss later in this chapter.

Voice

To express their emotions to others, people usually combine their use of facial expressions with their tone of voice. One pre-service teacher wrote,

> I did a great job of changing my voice and performing expressions while reading the book. I met the students at their level by widening my eyes and increasing my volume. In this specific lesson plan, I wasn't exactly able to use my body as a primary teaching tool, so I used my facial expressions and my tone of voice instead.

The bodily technique of combining voice and facial expression is highly intuitive and helps teachers to convey their emotions to their students with clarity.

Moreover, teachers can change the volume and pitch of their voice to express different meanings to students. For example, switching to a higher register of the voice in response to a student's answer can convey excitement or encouragement. In the scenario shown in Figure 4-11 (at left), at 00:15 in her final video submission, the pre-service teacher took out a block and

85

asked, "What letter does 'block' start with?" "B," several students answered. At 00:22, one boy pointed to himself and said, "like me!" "Like your name!" replied the pre-service teacher, with raised pitch, while also widening her eyes and nodding her head. Another pre-service teacher also used similar techniques: "I do feel like I did a good job of increasing the peppiness of my voice if a child got a question correct or was engaged in the lesson." A teacher's voice can announce emotive reactions to what is happening in the classroom and express what s/he expects of students. One pre-service teacher described how she changed her voice during teaching:

> I vary my voice a lot and identified a "teaching" voice, a "praise" voice, and a
> "discipline" voice. I think that could end up being a good thing in the classroom,
> because the students will get a sense for what is happening based simply on my
> intonation.

Analysis of the data reveals that most of the teachers intuitively used this strategy in their teaching.

Moreover, teachers can choose different strategies involving voice to manage the class. In one pre-service teacher's midterm video, the teacher was discussing the numbers 1 through 10 with a group of students. One student began talking louder and louder, causing classmates to stop paying attention to the lesson. The pre-service teacher said, "Shh…" and put one finger on her lips. Then she leaned toward the table and said softly: "Let's lower our voices, okay?" She then used a whispering voice to read out the rest of numbers. All the kids imitated her voice and lowered their voices. She talked about that in her reflection,

> At one point in the video, the students began talking louder and louder to where they
> were almost yelling so I changed my voice to a whisper and, surprisingly, this made the

students' voices follow my volume. I remember talking about this tactic in class and

now I know how beneficial it can be during a lesson.

The data from pre-service teachers' videos, reflections, and interviews suggests that by changing

the pitch and tone of their voice or adjusting their volume, bodily techniques involving the voice

play an indispensible role in teaching.

Gaze and Eye Contact

Gaze refers to the use of eye movement (or lack of movement) and eye contact to convey

meaning and/or emotion (attentiveness thoughtfulness, curiosity, surprise, disapproval). As

such, gaze constitutes an important form of nonverbal communication; as the saying goes, "the

eyes are windows into one's soul." A steady gaze that makes and maintains eye contact can

convey a particular meaning, as can a gaze that darts away to avoid eye contact.

Figure 4-12. Maintaining eye contact with students.

Teachers need to build a relationship with students quickly, interact with students during teaching, and engage students in the lesson. As the pre-service teacher shown in Figure 4-12 said,

> I use an enormous amount of eye contact with the students, in order to engage with them. I raise my eyebrows when talking with them, most of the time when I agree or [am] trying to praise the students.

While the pre-service teacher in Figure 4-12 was doing an opener for the lesson, she maintained good eye contact with each student, so the students quickly became interested in the lesson, engaged with her teaching, and responsive to her questions. Despite its apparent simplicity, the use of eye contact will sometimes have unexpected effects on students' learning. During a focus-group interview, one pre-service teacher talked about how to make eye contact with students during a mini-conference at their desk:

> My mentor teacher said, if you're hunched over, talking to the student like this, they're not going to learn a lot. But if you're facing towards them while you're sitting at their desk having a mini conference with them, working on the same sheet they're working at, making eye contact with them, discussing in a tone that's friendly but informative, all of those things go into that child's learning in that moment.

Whether it is used to attract students' attention to the lesson, engage the students, or build good listening habits, eye contact is another crucial tool at teachers' disposal.

Teachers also use gaze to convey their emotions to the students. In Figure 4-13a (at left), the pre-service teacher uses her gaze to express interest in a student's response. In Figure 4-13b, the pre-service teacher also uses gaze, making eye contact with the student and opening the mouth to show her curiosity in the student's answer.

Figures 4-13a & b. Using gaze to interact with the students.

In Figures 4-14a & b, the pre-service teachers give students a stern look to address what they considered to be misbehavior. The redheaded student (pictured at left) threw a picture card at the pre-service teacher, so she stared at him, shook her head, and said, "No Sir!" In the picture on the right, the girl pulled away all the toy bears from the table, so the teacher tapped on the table, firmly looked at her and called her name to direct her to put the materials back on the table.

Figures 4-14a & b. Using gaze to stop students' undesired behaviors.

A gaze can also be used to indicate the object of the teacher's attention and sometimes to convey instructions to students:

> Throughout [seminar] discussions, I realized how well I made eye contact with the students. This gaze seemed to be effective, and I was able to see that students were able to focus more. It was my way of allowing students to understand that I was speaking directly to them and wanted their attention.

Gaze is a good way to convey encouragement, warning or other signals to students. Gaze can also be combined with other bodily techniques. One pre-service teacher remarked,

> I think that I combined physical touch with my gaze a lot more effectively. I could tell on several instances that I was trying to make eye contact with a specific student by placing my hand on their shoulders or on their hands. This seems like it'd be more effective than simply saying, "Look at me!"

Teachers can use such non-verbal bodily skills without interrupting their teaching to show their attentiveness to and concern for their students through their gaze.

Part of learning to teach well is learning to modulate one's gaze to strategically indicate varying levels of attention to students. As Hayashi and Tobin (2015) write in Teaching Embodied:

> A skilled teacher strategically performs various levels of paying attention. If children seem too aware of her and dependent on her, the teacher adjusts her gaze and posture to appear to be too busy with a task to pay careful attention to them. In contrast, when a teacher senses children are about to spin out of control, she adjusts her appearance to seem to be paying more attention… Teachers also use posture, head tilting,

touching, and other body adjustments, in addition to eye contact, to signal levels of attention/inattention. (p. 24)

Positioning

Positioning is another crucial embodied aspect of teaching. Where do teachers position themselves and their students in the classroom? What is the ideal spatial relationship between a teacher and her students for a given instructional task? How much, and in what ways, should teachers move during a lesson? Veteran teachers know that the same lesson becomes a different lesson when taught from a different location in the classroom (e.g., near or far from the doorway, facing towards or away from the windows), or with students positioned differently (e.g., on the rug, in a circle or rows, or around a table).

Firstly, according to classroom layout and furnishings, the content of the lesson, the characteristics of the students, and even the time of day, teachers need to choose an appropriate setting and spatial arrangement for themselves and their students. One pre-service teacher said in an interview,

> Yeah, location is definitely—I feel like it's a really, really important part of your lesson because it could really determine if your kids actually do what they're supposed to be doing and all that. I remember, for my first lesson plan, I was near an area where my students were everywhere. My students got really distracted from the location that they were in. For my next lesson plan, I made sure that we moved locations. I made sure they were in a more quiet area.

Few pre-service teachers talked about how they chose the arrangements/settings for their lessons (either in their lesson plans or their reflections). Most of them showed little explicit indication in

91

their reflections that they were cognizant of the influence that spatial relationships in the classroom could have on their teaching and on their students' behavior.

Their spatial reasoning seemed mostly to be limited to choosing between two basic formations for small group activities: sitting at tables, or sitting in a circle or cluster on the floor. One pre-service teacher talked about the differences between these two arrangements:

The set-up of this lesson was a lot different than my first lesson, as we were all gathered around a table rather than sitting on the floor. Just the different setting made some aspects of my lesson easier and more difficult. Having the students sit down at the table minimalized behavior problems because they each had their own space with their own [materials]; they all also had an optimal place to view the story and did not have to worry about being able to see the pictures. However, being divided by the large kidney table limited my interaction with the students; it definitely felt more formal than my initial lesson. Throughout the lesson, I did try to connect with each of the students at different times, but it was difficult to move around with the table and the camera.

Reflecting on experiences like these helps pre-service teachers learn to select classroom arrangements that are specifically tailored to each lesson.

Experienced preschool teachers rarely remain in the same position throughout a lesson; rather, they reposition or relocate themselves (and/or their students) during teaching. One pre-service teacher, shown in Figure 4-15, talked about how she adjusted students' positions before starting a new activity following the read-aloud segment of her lesson:

About five minutes into the video I also reposition the students. It is after I have read the book aloud, and I do this in order to create space for the next activity that is about to take

place. The children are still within arms-length of me, however have more space in front of them to interact with the materials I give them.

Figure 4-15. Repositioning students for the next activity.

Keeping students at an appropriate distance from each other and the teacher is vital for leading group activities. Reflecting on the lesson shown in Figure 4-16, one pre-service teacher concluded that she should have arranged students in a larger circle for this activity. She wrote,

If I were to teach this lesson again in the future the first modification I would make is to have the students sit in a slightly larger circle so they were out of hands reach of each other. This would eliminate some of the distractions between students.

Figure 4-16. Students arranged in a very tight circle.

The dynamics of student group arrangements are often hard to predict without first seeing them in action; in retrospect, this pre-service teacher rightly recognized the importance of space in arranging students in groups.

Many teacher educators encourage pre-service teachers to move during teaching, to change their eye level to match that of their students, to walk around and work closely with individual students, or even to allow their students to move during activities. Although some pre-service teachers expressed some concerns about movement (e.g., "Having my lesson at a table, I do not move around the classroom because if I did, I feel like my students would be more distracted and confused about the lesson they were learning."), most pre-service teachers expressed in their reflections the opinion that movement is helpful for teaching. One pre-service teacher said, "Movement was something I tried to keep in mind as I taught so the children would find it a little more interesting." The pre-service teacher pictured in Figure 4-17 wrote,

I also tried to get up and move around the students when they were exploring in the

sensory bins. I also noticed that the students are constantly moving and standing when

94

going through the bins, as well. This was also an improvement compared to staying

stationary the whole time like in my last lesson.

Figure 4-17. Using movement to interact dynamically in a group activity.

The process of reflection modeled by these pre-service teachers can serve as a useful

illustration of how teachers may improve their pedagogical skills by accumulating such

experience-based reflections. Moreover, when teacher educators familiarize themselves with the

various kinds of bodily technique, they can assess the strengths that pre-service teachers develop

in their embodied teaching practice, as well as shortcomings that may need to be addressed.

Preferential Use of Bodily Techniques

According to both Mauss (1973) and Bourdieu (2000), different professions, such as dancing, athletics, and teaching, have characteristic techniques of the body; however, no bodily technique can be said to be universally superior or inferior to another. Each can be applied with different levels of effectiveness, depending on specific situations and personal dispositions (and bodily techniques can be used individually or combined). Many people find it hard to adjust their bodily techniques, partly because these behaviors are so closely tied with personality and habit. No teacher will excel in all bodily techniques equally; some may emphasize gesture and posture, while others may feel more comfortable with using eye contact or facial expression. With these considerations in mind, it should be said that there are no fixed or universal rules in the use of bodily techniques.

Watching videos of their own teaching helps pre-service teachers to recognize which bodily teaching strategies they use the most and to identify and develop a kind of characteristic bodily "style" in their teaching. The pre-service teachers' videos showed that each one of them had one or two bodily techniques that they tended to use preferentially. In many of their reflection papers they commented on their "go-to" techniques, of which they became more conscious through watching the videos. The bodily techniques they focused on in their reflections were typically the ones they used the most in their teaching. On the other hand, other bodily techniques they often relied on went unnoticed (or, at least, unmentioned) in their reflection papers—a phenomenon that could be used to shed light on potential blind spots or issues of perception with regard to certain bodily techniques.

Each of the students' videos was analyzed to identify and count the categories of bodily technique they employed in their lesson: facial expression, gaze, voice, gesture, posture,

positioning, and touch. If a technique was applied for a clearly identifiable pedagogical purpose at any point in the video, the video was considered to show evidence of that technique in use. On the other hand, bodily techniques used for a non-pedagogical purpose (for instance, communicating with the person videotaping them or glancing in the direction of a noise, etc.) were not counted. My counting of bodily techniques used in each video was not based on how often they used a given technique in the video, but whether they used it at all: either it was evidenced in the video, or it was not. Similarly, when analyzing pre-service teachers' reflection papers, if a pre-service teacher mentioned (implicitly or explicitly) a given bodily technique, it was counted as having been addressed in the reflection paper. For example, one pre-service teacher mentioned in her reflection paper that she used eye contact 3 distinct times in her lesson, but this was counted in the same way as if she had made reference to only one instance of eye contact. There were no instances of pre-service teachers claiming to have used techniques that were not evidenced in the videos.

Because all of the videos (for both the midterm and the final) included instances of facial expression, gaze, and voice, I did not include these three categories of bodily expression in my quantitative analysis of the videos. My binary analysis did not allow me to take account of how frequently facial expression, gaze, or voice were used in a given lesson (in any case, it is hard to imagine a teacher leading a lesson without using facial expression, gaze and voice). In contrast, because I could identify instances of pedagogical uses of gesture, touch, posture, and positioning in some but not all of the videos and reflection papers, it was these four categories that I included in my statistical analysis, as presented in Table 4-1 and Figure 4-18. I should also make clear that I did not attempt to evaluate the students' bodily techniques in terms of effectiveness; it is outside the scope of the present research to measure which bodily techniques are used more

effectively than others or whether each pre-service teacher made more effective use of a given

bodily technique in the final than in the midterm.

Bodily Techniques	Midterm	Final
Gesture	20	22
Posture	17	19
Positioning	15	21
Touch	7	11

Table 4-1. Total number of videos evidencing each bodily technique.
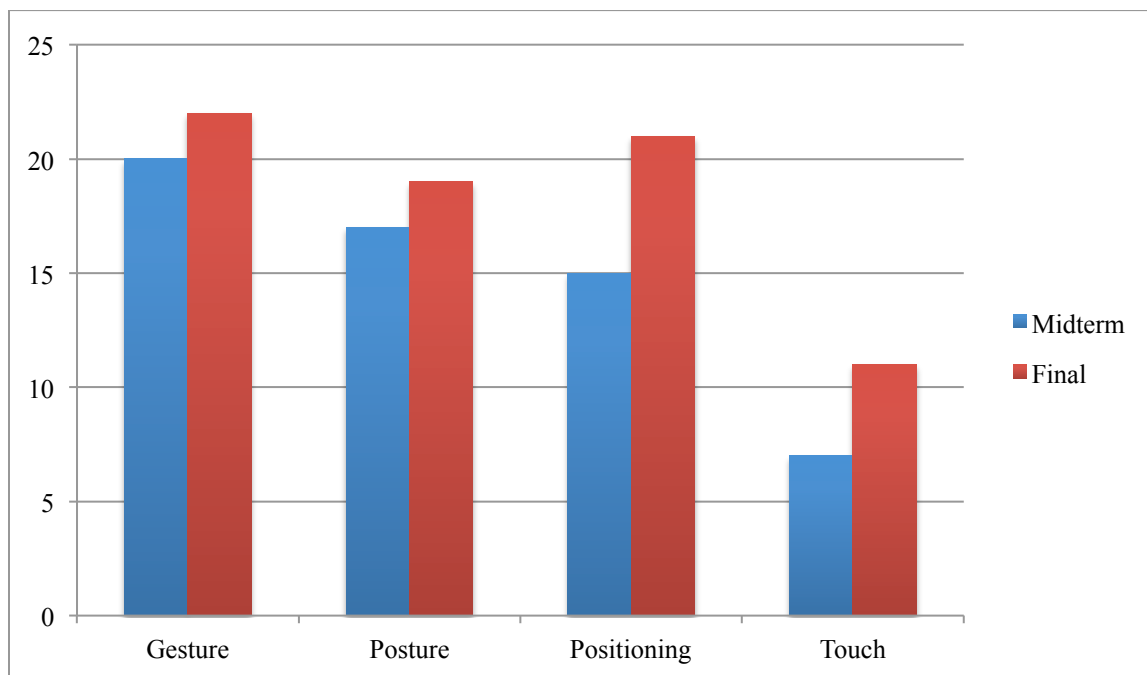
Figure 4-18. Bar graph of the data in Table 4-1.

The change from the midterm to the final videos was in the same (positive) direction for

all four of these bodily techniques. Gesture and posture changed only a little, touch more so, and

positioning the most. Applications of positioning were identified in 15 of the 23 pre-service

teachers' midterm videos, as compared with 21 of the 23 final videos. Seven of the participants

used touch pedagogically in their midterm videos, as compared with 11 in their final videos.

How should we interpret this change? One reason for it may be that in the week after the

midterm assignment was completed, the instructor (Joseph Tobin) gave a lecture to the class on

the concept of embodied teaching, which raised their awareness of their embodied practice. Gesture was used by 20 of the 23 students in their midterm videos, so there was little room for "improvement" in this respect. Why was the biggest increase in the area of positioning? One explanation would be that the reliance on a stationary camera on a tripod to videotape their lesson made many of the pre-service teachers hesitate to move around much in their midterm videos. This phenomenon was discussed in class. Once the pre-service teachers started to move more in their teaching, and to avoid teaching from a fixed position too often (either across a table from children or sitting on a chair in front of them), it was easier for them to get close to children and therefore to employ more touch.

A comparison of the midterm and final reflection papers showed a similar pattern. More students reported using each of the seven bodily techniques on their final reflections compared to their midterm reflections. The change on most of the items was small, but consistently in the same direction (with the exception of posture, which remained the same). Again, positioning stands out, as the number of reflection papers addressing positioning nearly doubled from the midterm to the final (as shown in Table 4-2 and Figure 4-19).

Bodily Techniques	Midterm	Final
Facial Expression	13	15
Gaze	15	20
Voice	15	16
Gesture	10	13
Posture	12	12
Positioning	13	23
Touch	5	10

Table 4-2. Total number of reflection papers evidencing each bodily technique.
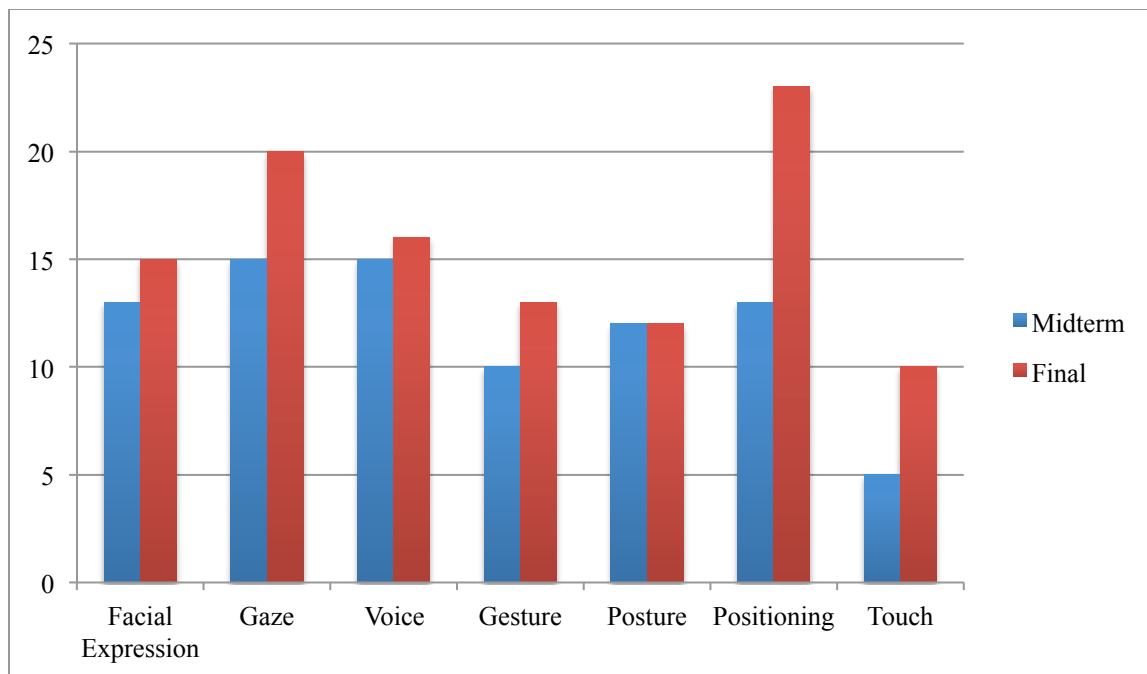
Figure 4-19. Bar graph of the data in Table 4-2.

Although the frequency with which the students can be seen employing these four categories of bodily technique did not drastically increase from the midterm to the final, they still indicate a clear pattern of increased use of these bodily techniques. In a sense we can say that this increase is not surprising given the fact that the instructor indicated his interest in this topic and encouraged students to think about how they use bodily techniques in their teaching. On the other hand, the increase is noteworthy in that it suggests the possibility of increasing one's proficiency in bodily techniques following instruction on embodied practice—whether the change happens from direct, conscious intent, or from gradual, sub-conscious adjustments to habits (or both).

Although the analysis did not take into account the participants' effectiveness in using each technique, through examining their reflections and videos, it can be said that paying more attention to embodied teaching can be helpful for pre-service teachers in the sense that it fueled their experimenting with using a wider array of techniques. Pre-service teachers did not appear

to be "forcing" their use of bodily techniques. In other words, the instances appearing in the videos appeared, for the most part, fluid and natural (rather than contrived). Many of the comments in their reflection papers were about their subjective sense of using bodily techniques more effectively. A typical comment was: "In contrast to my first lesson, I use posture and gaze more effectively." A feeling of improvement in effectiveness is implicit in many of the comments, like this one from a group interview at the end of the semester:

> I think there's one thing I did in the first video. If I recall correctly, I don't think I moved around as much in my first video, I think I just sat there at the desk, and then, for my second one, I actually decided, "Okay, I would get up and kind of move back and forth around that little table while I was reading that book, instead of just, like, sitting in that one spot." So I think that's one thing that I did differently, the movement.

While the evidential value of such comments hinges, to some extent, on the honest reporting of the participants, their significance should not be dismissed, as the participants were required to cite direct evidence from their videos to support such claims.

One of my research questions is whether a focus on embodied aspects of teaching would lead to pre-service teachers' implementing more bodily techniques in their teaching. The video and reflection data from the midterm and final, as well as the interviews, support the hypothesis that the requirement to video their lessons and to reflect on their videos, combined with discussion and instruction on bodily techniques in their teaching methods class, would lead to their using more bodily techniques and being more aware of their bodily techniques. An important implication is that an expanded toolset of embodied techniques equips pre-service teachers to respond to various pedagogical situations with greater flexibility, which in turn results in more actual instances of these bodily techniques appearing in their instruction.

Reading Aloud to Children

A limitation of drawing inferences from a comparison of the midterm and final videos and reflections is that the pre-service students' final lessons were different and in most cases more sophisticated and ambitious than their midterm lessons. This raises the question of whether the increased complexity of the final lessons contributed to the increased use of bodily techniques. On the other hand, broadly speaking, their final lessons were typically better designed to be more interesting to children than their midterm lessons, and it can be reasoned that more engaging lessons rely less on bodily techniques for classroom management.

Reading a book aloud to children while showing them the illustrations and performing the emotions is a common but also challenging activity for pre-service teachers. The one activity that was the most frequent across the 23 pre-service teachers and across the midterm and final lessons was reading aloud to children; of the 23 participants in this study, all but three did a read-aloud activity at least once in their video-recorded lessons. This activity was often used to introduce the lesson's topic. Analyzing the portions of videos where pre-service teachers read aloud to students and the sections of their portfolios where they reflected on read-aloud activities improves the validity of a comparison across different participants and from the midterm to the final.

In their reflections on reading aloud, many pre-service teachers highlighted how they used gesture, posture, voice, facial expression and gaze, but had little or nothing to say about their positioning. For example, shown in Figure 4-20, one pre-service teacher reflected on how she used gestures:

During the read aloud, I made extra effort to use gestures. For example, by touching my

ear when it was mentioned in the book. I also took this opportunity to have the students

make similar gestures in order to engage them in the story.

Figure 4-20. Using gesture to enhance students' engagement.

Additionally, most pre-service teachers seemed to recognize intuitively that, during read-

aloud activities, varying voice intonation could make the reading more lucid and engaging.

Teachers can use their tone of voice to reflect the content of the book, and, rather than reading in

a monotone voice, they can use the variation in their voice to engage their audience. As one pre-

service teacher explained,

I practiced reading with a loud, clear voice in order to help students hear me well and

reading with lots of expression to interest students more. These kinds of aspects during

my read aloud definitely made a difference and were effective.

Many pre-service teachers also remarked on how they used voice and facial expression during

reading, as in the following example:

During the story, I saw personal growth in my read aloud skills. My tone of voice was

much more interactive, and my facial expressions showed the emotions of the book

(excited, nervous, etc.). I think I did a good job of showing [the children] that I valued

what they had to say without diverting [their attention] from the story.

Moreover, when teachers are reading, they must not only focus on the content of the book, but

must also make frequent eye contact with students. Most pre-service teachers mentioned this: "I

also practiced not to look at every single word. Instead, I aimed to read and make eye contact

with the students while engaging them in the book." Through the videos, we can see many

instances of pre-service teachers focusing both on the book and on the students. Even though not

all pre-service teachers explicitly mentioned the importance of eye contact during reading, some

of them evidently arrived at this realization and some put it into practice.

The videos of the reading lessons showed clear applications of all these embodied

techniques, such as combining gesture and posture to act out concepts, making eye contact with

students, or adjusting pitch and tone of voice. Of the 46 videos, 25 videos included read-aloud

activities, all of which were also referenced in the corresponding reflection papers. Across all of

the participants' reflections on reading aloud, gesture was mentioned in 16 of the reflection

papers, posture in 14 papers, voice in 19 papers, facial expression in 17 papers, and gaze in 20

papers; positioning, however, was referenced (either explicitly or implicitly) in just 6 of the

reflection papers.

Only six of the twenty-five reflection papers that discussed reading aloud mentioned

positioning. In Figure 4-21, we see a scene where the pre-service teacher had to move her group

from the table to the carpet because a child vomited at the table; this was challenging for the pre-

service teacher. At the beginning of her lesson, as she read, the students reached out to touch the

book, leading her to need to remind the students several times to return to their spots and sit on

their bottoms. Also, one boy was not paying attention to the reading, and because two students

were blocking the pre-service teacher's view, she was unaware of the boy's distraction. In her reflection, she remarked,

> In watching my video, the initial thing I noticed was my location. I would have liked to be sitting at one of the tables, but unfortunately was relegated to the carpet where calendar time takes place. This only concerned me because the carpet is often where I play with the children, and I was worried they would not take my lesson seriously because of this. I tried to position myself close to the children, in order to engage them in spite of the flurry of activity around us.

Figure 4-21. Struggling with a reading activity after an unplanned relocation.

Doing an activity with a group of five or six children around a table is very different from doing the same activity on the carpet. Teachers lead most small group activities at a low table and the students do much of their individual work at tables. The table can physically impose an orderly arrangement, including how students are positioned in relation to each other and to the lesson materials. The carpet, in contrast, is a place normally used for whole-group (class-wide) activities, such as meetings, read-aloud activities, or free playtime. Students tend to feel less restricted and more relaxed on the carpet, so when a teacher leads a small group activity on the carpet, it is more difficult to maintain children's attention.

Another pre-service teacher explained how she adjusted her position during reading (shown in Figure 4-22): "Something I think I did well was standing up to read the story. This allowed me to move around a little, and my movement kept the children's attention on me and the story." When she started reading, she was centered in the middle of the table, but she quickly found that the students at the far ends of the table did not have a clear view of the pictures, even if she held the book higher. So she decided to stand up while reading the book so that she could more freely position the book while showing them the pictures.

Figure 4-22. Repositioning during a read-aloud activity.

Similarly, the pre-service teacher shown in Figure 4-23 noticed that the students at the ends of the table could not see the pictures in the book, so she moved a little further back from the table and also asked the boy on her right if he could see the pictures. She reflected,

> I also realized because of the kidney table shape the children directly on my sides could not see the book. I was glad I caught this early rather than not understanding why the children were not paying attention to me.

Figure 4-23. Repositioning to allow all students to see the picture book.

Another pre-service teacher also expressed her concern about reading at the kidney table:

> While watching my video, I noticed that the kidney table was not the ideal setting for a read-aloud. The students could not all see the illustrations at the same time. While I am showing one half of the table the book, the other half is not being engaged. The students also attempted to grab the book multiple times to make sure they could see.

As was mentioned earlier, this table configuration represents one of the two basic spatial arrangements with which the pre-service teachers were most familiar (the other being sitting on the floor in a circle or cluster). The kidney-shaped tables proved problematic for read-aloud activities—particularly when working with larger groups—because they did not leave enough room for all the students to sit facing the teacher while still having a clear view of the pictures (see Figure 4-23).

When reading aloud at the kidney table, almost half of the pre-service teachers at some point stopped reading and showed the pictures to each child (positioning the book in view of the students on their left or right, then rotating slowly towards the opposite side). In the 25 video clips that included a reading activity, 18 contained clear examples of pre-service teachers positioning the book so as to make sure each student could see the pictures. However, only three pre-service teachers mentioned this technique in their reflections. In one midterm reflection, a student wrote: "I also tried to make sure everyone had the opportunity to see the pictures." She made the following additional reference in her final paper: "I think each child was able to see the pages as I was reading. I positioned myself so that every child could see me. I sat straight up as I was reading the book." There is no explicit description in this reflection paper of what she did specifically to allow each of the children to see the pages. In the video we see her turn the book to face the children, and then move it from one to the next, giving each child a chance to see the

page clearly. Similar situations in which pre-service teachers' videos showed them making appropriate use of bodily techniques that they, for one reason or another, neglected to mention in their reflection papers, were common (except for facial expression, gaze, and voice, which were referenced in all of the reflection papers).

The same counting procedure explained at the beginning of this section (pp. 95-96) was applied in micro-analyzing the pre-service teachers' videos and reflection papers for the read-aloud lessons, as shown in Table 4-3 and Figure 4-24.

Bodily Techniques	Midterm		Final	
	Video	Reflection	Video	Reflection
Facial Expression	12	8	13	9
Gaze	12	9	13	11
Voice	12	9	13	10
Gesture	9	7	11	9
Posture	7	6	8	8
Positioning	8	1	10	5
Touch	1	1	5	5

Table 4-3. Use of bodily techniques in read-aloud activities.
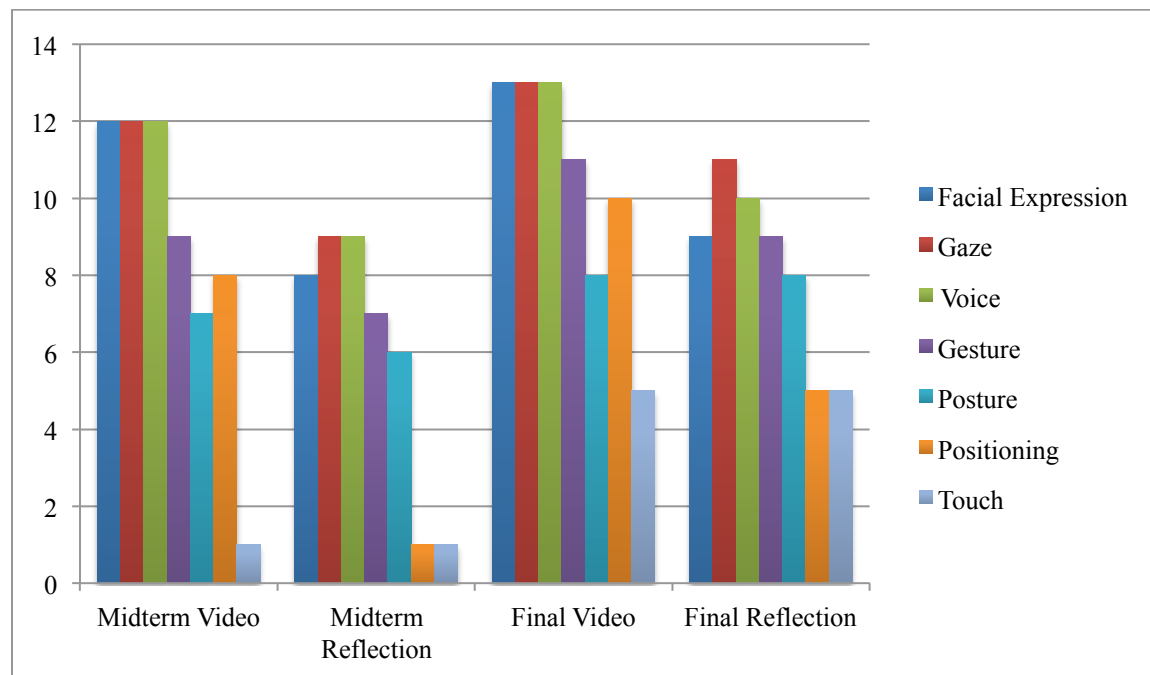
Figure 4-24. Bar graph of the data in Table 4-3, arranged by data sources.

110
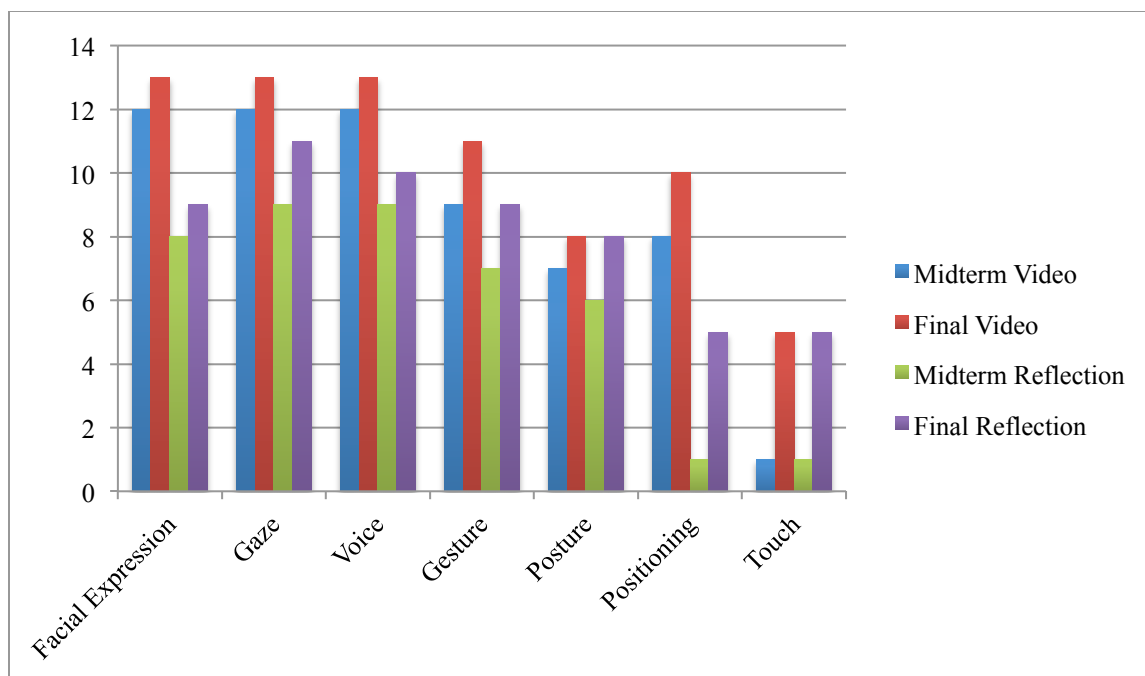
Figure 4-25. Bar graph of the data in Table 4-3, arranged by bodily techniques.

Figures 4-24 and 4-25 show that during read-aloud activities, facial expression, gazed, and voice saw the most widespread use among the pre-service teachers. The pattern of this data indicates that certain bodily techniques both were implemented more often in lessons and mentioned (explicitly or implicitly) more often in reflection papers. The pre-service teachers used all seven bodily techniques more in their final than in their midterm videos. Moreover, all of the bodily techniques appeared in their videos of read-aloud activities more often than is attested in the corresponding reflection papers. In other words, by the end of the semester, they used more bodily techniques when reading aloud and were aware of doing so, but they also used more bodily techniques than they acknowledged in their reflection papers.

In his 2000 essay on "body habitus," Bourdieu suggested that not every embodied action is preceded by a premeditated and explicit plan. Hayashi and Tobin, in their 2015 book *"Teaching Embodied*: Cultural practice in Japanese preschools,"* paraphrase Blaise Pascal's words: "You pray because you are religious; you are religious because you pray" (p. 6), and they

suggest that often in preschool teaching "the bodily practice comes first and the belief follows." This reasoning is consistent with my finding that the pre-service teachers' use of bodily techniques came before rather than after their conscious awareness of their bodily techniques.

Of the seven bodily techniques I analyzed, positioning has some special characteristics. Eight of the 12 participants who read a story for the midterm lesson can be seen using positioning pedagogically in their videos. However, only one of these eight pre-service teachers mentioned positioning in their midterm reflection papers. By comparison, at the end of the semester, 10 of 13 participants who read a story for the final lesson used positioning, and 5 of these 10 reflected on positioning in their final reflection papers.

Why was positioning so difficult for them to be aware of when reflecting on their midterm videos? How can we explain their increased awareness of positioning when reflecting on their final videos at the end of the semester? One possibility is that when pre-service teachers watched their midterm videos, they tended to look at themselves and not at the larger context. Of the seven bodily techniques I analyzed, only positioning is relational, as it involves the teacher's location in relation to the children and materials. Positioning means locating oneself within some particular context—not only with reference to space (as with sitting closer to a misbehaving student), but also in relation to subjective considerations of how the body relates to the students and lesson materials. This helps explain why the pre-service teachers struggled to be aware of their use of positioning. To do so would require the pre-service teacher when watching her video to decenter her attention away from herself, her body, and her performance as the "star" of the video and instead to see herself as a co-participant with the children and materials. In other words, she would have to see herself and her bodily techniques contextually, in the context of her spatial relations to others.

This reasoning is consistent with research comparing the practices of novice and experienced teachers. David Berliner (1988) did an experiment in which he asked novice and experienced teachers to look briefly (for just three seconds) at photos showing an adult and children sitting at a table in a classroom and then asked them to describe the scene. Novices tended to be quite concrete in their descriptions, saying things such as "Four of five kids at a table with a teacher." Experienced teachers made more abstract comments, such as "It looks like a cooperative learning lesson." Berliner concluded that experienced teachers tend to be better at "interpreting classroom phenomena" and "discerning the importance of events" (p. 12). He suggested that beginning teachers have a harder time than veteran teachers with "reading" the larger context and significance of a pedagogical situation. For example, as shown in Figure 4-26 and 4-27, one pre-service teacher read and showed the book around in both the midterm and final read-aloud activities; she also moved some boxes out of the way to make sure all the students could see the pictures in the book. But she only reflected on her positioning in her final reflection paper:

> I am certainly engaged with the kids, looking relaxed and smiling a lot. I'm making a lot of eye contact and making sure I go around to each child to make sure he or she is engaging in the activity, which is made possible by the fact that I am positioned in the middle of the table with the children surrounding me in all directions.

Figure 4-26. Showing a book around to a group of students (midterm).

Figure 4-27. Showing a book around to a group of students (final).

This example demonstrated that this pre-service teacher noticed the larger context of spatial factors affecting her lesson, and she was aware of the pedagogical implications of these factors in her final reflection paper.

Hayashi and Tobin (2015) use Merleau Ponty's concept of "intercorporeality" (1964) and Erving Goffman's concept of "the spatiality of embodiment" (1971) to "describe the

synchronization of bodies that social life requires" (p. 12). They discuss how some Japanese teachers supported the students' development of these embodied, intercorporeal social practices in preschool settings. Teaching is a group activity that must coordinate the movements of teachers and their students in the classroom environment; so pre-service teachers must not only learn to use their own bodies as pedagogical tools, but also must learn how to interact with students through their bodies and how to support their students to build appropriate spatial relationships with classmates. As one pre-service teacher noticed:

> I noticed how the three girls interacted with each other and were sharing the different buttons that they found to be pretty. The girls also sorted their buttons in a similar manner, mostly by shiny ones and colorful ones, and ones with patterns on them.

These studies suggest that a key challenge for novice teachers is to learn to see themselves in the broader, classroom context and their teaching as relational, which includes not only using bodily techniques such as gaze, gesture, and touch effectively, but also positioning themselves effectively vis-à-vis the children, materials, and layout of their classroom.

The Challenges of Combining Bodily Techniques

The pre-service teachers all had moments when their videos showed them struggling, and these moments of struggle came up in many of their reflections. Teachers need to monitor from moment to moment what is happening among the students they are teaching in order to deal with several issues simultaneously. As discussed in the above section on positioning, pre-service teachers need to learn how to pay attention not only to what they are doing, but how the things they are doing work in the context of a lesson. To do so requires the artful use of several bodily techniques in concert. In discussing teachers' attention, we must revisit two terms introduced in Chapter 2—"withitness" and "overlapping"—which were coined by Jacob Kounin (1970).

In the videos we see some evidence of pre-service teachers' being aware of the students' level of engagement and of these teachers taking action to cue students' engagement using bodily techniques. Their reflections show differences in their levels of awareness of losing student attention and of the techniques they employed or failed to employ to deal with student engagement/disengagement. Some of the pre-service teachers wrote in their reflections that it was only when they watched the video of their lesson that they realized how much they were missing while they were teaching.

Withitness

Withitness refers to the monitoring ability required of teachers to maintain the flow of lessons and a positive mood in the classroom. The greater a teacher's withitness, the greater his/her ability to maintain awareness of what students are doing and what is happening across the classroom. Kounin argues that withitness requires not just that the teacher be aware of what is happening, but that she communicates her awareness to the students with her body, which gives them confidence that she has things under control and that their behaviors, positive and negative, are being noticed.

In their midterm reflections, some pre-service teachers detected signs of students' distraction, confusion, or comprehension. As one pre-service teacher reflected:

> I can tell by watching these students' body language throughout the video that they
> are not necessarily "with it." I can see towards the end of the video that I am starting to
> lose them.

Through observing students, some pre-service teachers can find indications of whether their students were engaged in the lesson (such indications are exemplified in Figures 4-28, 4-29, and 4-30).

117

Figure 4-28. Addressing students' distraction during a reading activity.

In Figure 4-28, when a pre-service teacher found that none of the students were paying attention to the book (upper image), she told them she would tell them an interesting story about a fire truck. She successfully drew students' attention back to the book.

Some of the instructors and university supervisors expressed concern about pre-service teachers' withitness and about whether a pre-service teacher can read students' behaviors. One pre-service teacher reflected on how to improve her withitness:

I still could have improved my sense of availability and "withitness." I often paid attention to one or two students at a time, not addressing the entire group as a whole or unintentionally ignoring one or two students at a time. By looking at the expressions on the children's faces, it was easy for me to tell that they were very engaged in the activity and really enjoyed the hands-on experience!

An instructor remarked in a focus-group interview:

I wanted to say one quick thing, though, about embodiment. One thing I noticed when we did the video assignment: when watching pre-service teachers' videos, it was the embodiment of the student as well because, for example, the pre-service teachers felt, in a way, that the students all need to be sitting and not moving. Even like, as I'm sitting here, I'm rocking the whole time. I can't physically sit still, and so I'm always moving, but I'm actually engaged—I'm listening—and they were like, "You need to quit moving, you need to quit rocking, or fiddling."

This instructor, along with others, suggested that the pre-service teachers needed to get better at observing and interpreting students' behaviors.

To deal with issues of students' distraction and misbehavior in the classroom, pre-service teachers demonstrated some successful strategies, such as calling students' names, introducing interesting topics (Figure 4-28), asking questions (Figure 4-29), reminding them of classroom rules, or even directly stopping students' misbehaviors by telling them what to do (Figure 4-30):

I tried asking questions directly to the students who were not paying attention so that they would listen to what I was saying. I also had to ask some students to sit on their bottoms, and deal with "sharing problems."

One pre-service teacher also remarked,

> I could tell I was losing the students' attention, so when I asked questions, I would
>
> call on them specifically to answer. I liked this tactic because it pulled them back into the
>
> lesson.

Figure 4-29. Asking a question and making eye contact to refocus attention.

These verbal disciplinary strategies can be coupled with non-verbal strategies as well; she

continues,

> I also tried to keep eye contact with them while reading the text, pausing here and there,
>
> looking at them to see where their attention was—watching to see whether or not it was
>
> on me or on something else.

In other words, the other bodily techniques already discussed in the previous sections, such as

touch (Figure 4-6) and gaze (Figure 4-14), are also applicable in similar contexts, sometimes in

combination with verbal strategies.

Figure 4-30. Tapping on the table and verbally directing a student to stop his misbehavior.

In Figure 4-30, the boy in the green shirt was playing with his hands and making noises instead of paying attention to the lesson. The pre-service teacher put her hand on the table in front of him, made eye contact with him, and asked him to stop.

In addition to their struggle to interpret students' behaviors, pre-service teachers' lack of classroom experience puts them at a disadvantage in knowing how to address issues with appropriate interventions. Reviewing videos of their own teaching can be helpful for reflecting on mistakes that they might otherwise forget or fail to recognize, as well as for thinking about how to deal with similar issues later on. If a pre-service teacher did not notice such key moments while she was teaching, when she reviews videos of her teaching, she may discover mistakes or indications of students' distraction and confusion:

> Another issue I recognized during my lesson was during my read-aloud, which I did not notice until I watched my video. As I was reading, one of the students listening to the story asked me a question concerning the book, but because I did not hear him very well, I completely ignored his question. This was not intentional, and it was surprising that I did not recognize this during my lesson.

Another pre-service teacher remarked,

> After watching the lesson, I saw that one of the students had been playing with a piece of paper that was on the floor for quite some time and I did not notice it until much later. I was dumbfounded that I missed it and that it went on for so long until I found out.

Kounin likened "withitness" to the sense that a teacher has "proverbial eyes in the back of her head" (p. 81). Comparing the midterm and final videos and reflections, it is evident that pre-service teachers made some progress in their withitness, but also that most had room for further improvement. Developing the monitoring ability of pre-service teachers during teaching requires practice and reflection.

Overlapping

Overlapping is a term Kournin uses to refer to a teacher's ability to allocate attention to multiple things happening simultaneously in the classroom. Effective teaching requires the ability to notice two or more events and take action to deal with them at the same time. In Figure 4-31, the pre-service teacher shifts her body and gaze to allocate attention to the needs of different students. In the top image, she uses her right hand and posture to indicate she is attending to the children on her right, while cueing students on her left that she is aware of them by putting her left hand on the table in front of them. In the next image, she leans toward and talks to the students on her left and reaches her left hand out toward the boy to her left, while using her right hand to position materials for the benefit of students on her right. In the third image, she turns and leans toward the children on her right side, while putting her left hand on the shoulder of the boy to her left to calm him.

Figure 4-31. Allocating attention to multiple students at the same time.

This pre-service teacher displayed skill in overlapping. However, the videos show that many pre-service teachers did not give attention to each student in the group they were working with. A common problem was that one or two children received most of their attention, causing them to miss the behavior of other children needing attention. Another problem was that the teachers got so caught up in the topic they were teaching or busy with the materials they were demonstrating that they lost their sense of the students. It is as if they had to choose between looking down at their lesson plan and materials, or looking up at the children. In their reflection papers, many of the pre-service teachers reflected on the difficulty of splitting their attention in more than one direction. As one wrote in her portfolio:

> One of the body uses I could work more on is my gaze. During the lesson I caught myself looking at the same two children the most. Even though, I did make eye contact with each individual child there were two students I looked at more and maybe this kept me from noticing something important from the other students.

Sometimes the pre-service teachers could not pay attention to every student in the group or they made eye contact with some students more than others. One pre-service teacher felt she focused more on the talkative students than on the silent ones:

> I tried to address the needs of each of the three students. However, as aforementioned, I left Cathy (pseudonym) out most of the time. I think this had to do with the fact that the other students were a lot more vocal. It's so easy to forget about the quiet ones, even in such a small group setting.

Another pre-service teacher talked about a similar issue,

> I didn't notice until I watched the video how well behaved and on task one little girl was, and I wish that I had said something to her during the lesson about how wonderful she

was doing. I focused more on the misbehaviors, as the boys were standing up and leaning

across the table, than I did on the good behaviors; I should have focused more on

positive reinforcement than the negative reinforcement.

And,

I didn't keep the focus of all the students the whole time. There were some who were

looking at the other activities going on in the room and some turning around looking at

the camera. Also, when talking with one student I turned my back on another and he was

behind me, which I didn't realize. I wasn't fully aware of the body and what kind of

messages it was giving off.

These novice teachers tended to direct too much of their attention to misbehaviors and problems

during teaching, causing them to give less attention to their lesson and to children who were well

behaved. One of their instructors commented:

The thing that always makes me nervous is that they use their videos as evidence as of

what the kids are doing wrong. Like, "I couldn't get them to sit down, they wouldn't

listen, they're not listening." No, wait. She is listening to everything you're saying and

she just answered all your questions, so what does it mean to be engaged? What is

engagement?

As Kounin's term "overlapping" suggests, a teacher should have multiple foci of

attention during teaching, scanning the group and noticing signs from individual students. One

pre-service teacher talked about how important it is to look in all directions:

Another thing that I think that I could improve upon would be that when I am

individually talking to a student, [I] give them all the attention, but keeping an eye on

what is going on with the other students. I need to be aware of what all students are doing even when I am intentionally giving the attention to one of the students.

A teacher's body provides hints for students, who watch her to see if she is paying attention or not. As one pre-service teacher wrote:

I noticed through the videotaping was that often, when I am listening to one of the students, I am not keeping the others engaged. I give all of my attention to the student talking by having eye contact, turning my body to them, and really honing in on what they say. This can be good and bad because it seems that when I give this attention it is received well by the student receiving the attention. However for the other students, if they are not listening to the student talking then they are completely unengaged. To keep them engaged would have helped them to become more immersed in the activity.

For some pre-service teachers, handling the lesson materials they held in their hands proved to be a problem, making it difficult to use hand gestures:

I noticed that I raise my eyebrows a lot to show interest. The eye contact that I do make with the kids is very fast and fleeting, as my eyes are mainly drawn to what is being placed in the pot and what I am needing to pull out and place down. I think that caused a great distraction for me because I looked more at the fruits [i.e., lesson materials], more than at the children.

The pre-service teachers tended to rely on one or two bodily techniques much more than others. One reason is related to their personality or habits, but another reason may be that these bodily techniques are easier for them to use. Many pre-service teachers are weak in using their bodily techniques to distribute their attention across a group of students and to multitask. These pre-service teachers found watching and reflecting on their videos to be particularly helpful for

making them more aware of this problem and to prompt them to consider solutions. Many pre-service teachers wrote in their reflections that this is an area of teaching they want to continue to work on.

The Overuse of Bodily Techniques for Classroom Management

The pre-service teachers made heavy use of bodily cues for classroom management. For example, these teachers often said, with accompanying gestures: "Eyes up here" (Figure 4-32), "I need eight eyes" (i.e., with a group of four students), "Lips zipped" (Figure 4-32), "Freeze" (Figure 4-33), "Criss-cross applesauce," and "Catch a bubble." Figure 4-34 depicts one pre-service teacher's response when some students were playing with the materials instead of paying attention to the teacher's directions. As this pre-service teacher told the students to put their hands on their laps and not to touch the materials on the table, she also performed these same motions.

Figure 4-32. From left to right, demonstrating "eyes up here," "shh!" and "lips zipped."

Figure 4-33. Saying "Freeze!" to stop students from talking out of turn.

Figure 4-34. Performing "hands on lap."

Some educators criticize the over-dependence on controlling children's bodies in the classroom. Nevertheless, pre-service teachers find these disciplinary techniques to be highly intuitive, attractive, and effective for directing children's attention. For example, in one short, thirty-second video segment, represented in Figure 4-35, we see a pre-service teacher using four different bodily commands. At 07:07, the kids were playing with toy foods. When the pre-service teacher wanted to move to the next topic, at 07:10, she said, "Hands in the air, one, two,

three!" All three boys and the pre-service teacher raised their hands up, but the girl was still playing with the toys. The pre-service teacher called her name, and then she raised her hands. At 07:16, the pre-service teacher announced, "I want everyone to put their hands down on their lap. We will not sit criss-cross applesauce on the rug like we normally do, but I know we are all big boys and girls; we can sit [at the table] and pay attention to a story for just a few minutes." And then she started reading.

Figure 4-35. Performing "hands in the air."

Do pre-service teachers need to control their students' behavior this much? For example, as shown in Figure 4-36, in a five-minute reading activity, one pre-service teacher had to interrupt the reading six times to tell the students to sit in their chairs, and five times she touched one child's back and tapped her chair to make her sit down properly. She wrote in her reflection paper about her struggles during this activity:

> I also tried to manage them at the same time, and make sure they were sitting down properly and listening to directions/activities. I think I could use some work here, because I constantly had to tell one of the students sitting next to me to sit in her chair, on her bottom.

Thinking that a good lesson is one in which students look at the teacher and listen, follow the directions to finish the task, and engage in all the activities, novice teachers place great emphasis on micromanaging the class in order to achieve this ideal.

Figure 4-36. Signaling both verbally and with touch for a student to sit properly.

It can be effective to use bodily techniques to manage a potential disruption rather than, for example, stopping the flow of the lesson mid-sentence to give a verbal command to a misbehaving child. On the other hand, less time would be needed for management if lesson plans were better refined, or if the pre-service teachers were not so concerned with maintaining rigid control (that is, even when there is no substantial disruption). Many of pre-service teacher's lessons, especially at midterm, were poorly planned, making it hard for them to keep their students engaged, which in turn meant they had to give most of their attention to classroom management.

The videos show that in the preschool classroom, touch can be a very effective technique for holding students' attention or addressing undesired behaviors while keeping a lesson flowing.

However, touch was the least used of the seven bodily techniques in their videos. Why? Some pre-service teachers may feel it is not appropriate for them to touch children. The pre-service teachers' location while teaching their lesson in many cases also made it more difficult to use touch. Sitting at a table can make it impractical for the teacher to touch children at the opposite side of the table.

By the end of the semester some of the pre-service teachers had figured out ways to combine touch with other bodily strategies. One pre-service teacher wrote:

I sat at the table with the students for the first part of the lesson. I thought that this was much more effective, because I was able to use touch to keep the students next to me focused, and I was able to use eye contact to keep the students across from me focused.

Another wrote:

I chose a table near the back of the classroom to teach my lesson in because it was quieter than the rest of the classroom and was set up that I could arrange the students around me at the table. The kids were able to see me and the book when I was reading by staying in their chairs, so they did not have to get up and move around and cause a distraction for anyone during the lesson.

To be effective, bodily techniques need to be matched not just with the teacher's personal style, the children's moods, and the lesson to be taught, but also with the affordances and constraints of the classroom layout and furnishings. For example, before starting her lesson a teacher can place a student who she anticipates will struggle to pay attention next to her at the table, which will allow her to use touch. Or, the pre-service teacher can choose a regular table instead of a kidney table for a reading activity (which, as discussed above, may reduce distraction, and thus the need to intervene using bodily techniques).

Some pre-service teachers recognized their over-reliance on bodily disciplinary cues. As one reflected, "I feel that I was stiffer and relied on typical management phrases like 'catch a bubble' too much." The videos helped the pre-service teachers recognize the need to choose the most appropriate strategy for a given situation:

I felt like I failed in terms of discipline. I lost control of the group and the lesson. Students were doing whatever they wanted and leaving before the activity was over. I do feel like some aspects were environmental factors, such as a more fun activity that the students had to stop doing to come and take part in my lesson.

Looking across the 46 videos in this study (23 from both the midterm and final), we can see the pre-service teachers employing a similar set of bodily disciplinary strategies and most of them relying heavily on one or two "go-to" strategies. Some of the pre-service teachers used the same verbal and non-verbal bodily disciplinary strategies more than 10 times in their 15-minute teaching segment. However, only three of the 23 pre-service teachers in this study commented in their reflection papers on their use of bodily classroom management techniques. The pre-service teachers rely heavily on these bodily discipline strategies, but they seem to do so with little conscious awareness.

Another challenge is how to balance their use of verbal and non-verbal management strategies. Of course, teachers can use both, but when they use verbal management approaches they have to interrupt or stop the lesson, as with the pre-service teacher in Figure 4-36, who stopped and told her students to sit in their chairs six times in the space of a 5-minute reading activity. However, if someone keeps talking and teaching, but uses touch to stop a student's misbehavior, such as in Figure 4-6, she can maintain the flow of the lesson. As one pre-service teacher remarked,

A final element of my embodiment that seems to affect my teaching was the way in which I would use my hands to stop a child's distracting behavior without stopping my lesson. I noticed that one student was talking while I was trying to give directions, so I simply laid my hand on his arm while I finished talking. In retrospect from the video, this form of classroom management seemed much more effective than stopping and demanding that a student cooperates before we move on.

Verbal strategies like "all eyes on me" break the flow of the lesson. As discussed in the "overlapping" section, pre-service teachers need to allocate their attention to different events and students at the same time, and they also need to make quick decisions, such as what to prioritize and what must be dealt with immediately. For example, if a certain misbehavior can be stopped by a simple touch, there is no need to interrupt the lesson, and in other instances, perhaps the teacher can put her hand on one student's back while using gaze to interact with the others.

Many progressive early childhood educators feel that the rules and expectations for students' bodies are too constricting, and they are critical of the use of such techniques of bodily discipline in school settings. I would argue that the problem is overuse and also use in wrong contexts, such as in transitions between locations and activities (Lee, forthcoming). There is nothing inherently wrong or punitive about using embodied practices with four-year-old children to cue their behavior. As Piaget reminds us, these children are in the sensorimotor stage. This more generally is tied to the "mind/body" problem and the challenge of integrating the use of techniques of the body with talk and conscious thinking in preschool teaching. Mind and body were combined in a creative way by one of the pre-service teachers who concluded her lesson (shown in Figure 4-37) by saying, with accompanying gestures: "Can you kiss your brain and give yourself a really big hug because you did an awesome job with the life cycle."

Figure 4-37. Using verbal encouragement with accompanying gestures.

Although embodied teaching skills often develop unconsciously, it cannot be denied that the teacher's body is a powerful pedagogical tool for teaching, and as such it demands the attention of teacher educators. As one pre-service teacher remarked in her final reflection, "The techniques of the body are very valuable and can really help make me grow to be a great teacher." When pre-service teachers are trained in using their bodies pedagogically and become

more aware of the embodied dimension of teaching, there will be a meaningful difference in the development of their teaching expertise. One pre-service teacher said in a group interview:

> I might not be focusing as much [on] the embodied practice, but like, thinking about it, I think I do a lot more of it, like, I kind of, tap the kids' back if I'm cutting in to touch them, or kneel down to, like, get on their level, when they're writing, or if I'm doing something at the head of the classroom, like making sure I get that eye contact, I feel like it's become more natural, and then, not, like, forcing myself to do it, and so I think it was helpful to have really realized it, to notice it, so now, it can become more of a natural thing.

In this chapter I presented multiple evidences of how pre-service teachers' use of their bodies in teaching, coupled with instruction in their methods course targeting bodily techniques, changed their classroom practices and their understanding of themselves as teachers. Also, after elucidating of the uses of bodily techniques, this chapter has addressed how pre-service teachers developed in the employment of embodied practices in their preschool placements. As the pre-service teacher explained in the above quotation, embodied teaching can become increasingly "second-nature" as teachers consciously put it into practice.

CHAPTER 5

PRE-SERVICE TEACHERS' USE OF MANIPULATIVES

"In both my lessons this year I have used a good deal of materials. I find that materials, when used appropriately, are extremely beneficial and the students seem to love how they make a lesson more hands-on. I brought several random kitchen instruments to use while exploring the apples. I hid these away until we used them so that they wouldn't be a distraction."

—One pre-service teacher's reflection on using materials

Most conventional studies of teaching employ an implicitly human-centered ideology. However, theories of materiality are directing more scholarly attention to the importance of objects in early childhood education (Curtis & Carter, 2003; Driscoll & Nagel, 2002; Lascarides & Hinitz, 2000; Wolfe, 2002). As Fenwick & Edwards (2013) argued,

> Many have begun to point to the problematic absence of materiality in conventional
> studies of learning: artifacts, tools technologies, bodies, environments, and nature… The
> social and the material are entangled and together constitute everyday life. (p. 372)

It is difficult to think of early childhood teaching and learning that would not make use of materials. Teachers need to prepare materials sensitively and thoughtfully while planning lessons and conducting instructional activities.

Video is great tool not only for recording and reflecting on embodied interactions between teachers and students, but also for capturing and facilitating reflection on the role of materials and spatial/social settings in teaching. In this chapter, I use Latour's Actor Network Theory as a conceptual framework for making sense of how the pre-service teachers in this study employed materials in their teaching, the challenges they met in doing so, and how the materials they selected influenced their practice, students' behaviors, and the interactions between them.

Human and Nonhuman Actors

A preschool classroom can be understood, using Latour's (1996) terminology, as a complex "actor network." As Latour wrote:

> An 'actor' in AT is a semiotic definition—an actant—that is, something that acts or to which activity is granted by others. It implies no special motivation of human individual actors, nor of humans in general. An actant can literally be anything, provided it is granted to be the source of an action. (p. 7)

Because for Latour, sociality is not limited to human actors, in place of the term "actor" he usually employs the term "actants," which can be nonhuman as well as human. In classrooms, both human actors (mentor teachers, pre-service teachers, school administrators, students, and parents) and nonhuman actants (furniture, classroom settings, teaching materials, and technologies) contribute to the relational dynamics of the network.

Materials, as actants, are closely connected with embodiment. Objects can be extensions of bodies; for example, you can point with your finger, or with a pencil or pointing stick (see Figure 5-1).

Figure 5-1. Pointing with a finger or a marker.

Materials can be used in teaching not only as extensions of the body, but also as organizers of students' activities. The importance of materials in early childhood education has a long and rich history, from Froebel's gifts, to Piaget's manipulatives, to Montessori's object boxes, to Hill's wooden-blocks (Hill Floor Blocks). Some early childhood educators have noted that the recent emphasis on language acquisition and neural development has displaced attention in teacher preparation away from the importance of materials. As one field experience supervisor expressed to me in an interview:

In this teacher education program, there is relatively less attention paid to choosing

materials. What are the things you are going to use with your kids? If you're going to use

a worksheet, what will that worksheet look like? Is there any way you can make it better

to support your teaching? Last semester, I had a student—she created this worksheet for

kids to sort and count. What came out was, the little girl got too many crackers and she

couldn't fit all of them on the sheet. I was telling them, when you were preparing this,

think about how many crackers are given to the girl and how many spots you have on

your worksheet because you might confuse her. I have nine red crackers but there's only

seven spots, where should I put the other two? You have to think about this, and this has

been the discussion I try to bring when I have opportunity to talk to them, but in class,

or even when they were having small group time working on their lesson plans, they paid

very, very little attention to what are the things you are going to use with the students.

Almost every participant mentioned in her reflection paper the kind of teaching materials

she chose, why she chose them, and how the materials worked in the lesson. Many pre-service

teachers remarked that they made a bad choice of materials or that they used the materials in

ways that interfered with the intended flow of their lesson. As shown in Table 5-1, of the 23

reflection papers each for the midterm and final, a similar number (16 for the midterm and 17 for

the final) included comments on materials (this analysis included only teaching materials and

excluded comments on the influence of the video recording equipment). The ratio of positive to

negative comments changed dramatically between the midterm and the final. Among the 16 pre-

service teachers whose midterm reflection papers included some discussion of materials, only 2

said that their experiences with materials were positive (i.e., their remarks in their reflection

papers were all positive), as compared with 8 of 17 on the final. The number of negative

comments on the use of materials decreased from 10 on the midterm to three on the final. The

ratio of positive to negative experiences with materials changed dramatically, from 2:10 to 8:3.

Using of materials	Comments in Midterm Reflections			Comments in Final Reflections		
	Positive	Mixed	Negative	Positive	Mixed	Negative
	2	4	10	8	6	3

Table 5-1. Comments from reflection papers on the use of teaching materials.

The first problem pre-service teachers faced was how to choose suitable teaching

materials—materials that would do more to facilitate than to interfere with their lesson. For

example, one pre-service teacher said in a group interview:

> Using the playdough was using something tactile for them to help them learn better. I feel
>
> like that was a really good way. I would have never thought to use playdough to work on
>
> something like that just because that's something that could be thrown at me or they
>
> could eat it.

Many pre-service teachers, as indicated in their midterm reflections, regretted having used

pictures rather than tactile objects as teaching materials. As the pre-service teacher shown in

Figure 5-2a commented:

> One thing I would change is the materials I used. Rather than using printed pictures of
>
> leaves, I would collect actual red and yellow leaves for the students. This is important for
>
> Pre-K students because of the hands-on uses of actual leaves are good for their
>
> development. Also, it would address standards involving their environment around them.

However, another one (shown in Figure 5-2b) expressed the opposite idea. She prepared many

unfamiliar materials for students to use to build a house. She spent a lot of time introducing and

explaining each item to the students, but through the students' facial expressions, she could see

that they were still confused:

The amount and unfamiliarity of the materials was overwhelming for the kids. The kids were initially hesitant when I introduced the materials, so it was a struggle for them to know what to do and get started. In the video, you can see that there's a span of time of about 3 minutes where I am opening the materials after the kids have seen them and the kids are asking what they are, what we're going to do with them, and why. Once I noticed how confused the kids were and realized they had not seen most of those materials before, I felt like there was nothing I could do.

Figures 5-2a & b. Choosing and interacting with teaching materials.

Materials, for better or worse, compete for students' attention. In the teaching methods course, instructors urged students to choose "real" items (e.g., real fruit instead of pictures of fruit) to make their lessons more engaging. One instructor speculated that the tendency to use pictures rather than materials stemmed from the students over-reliance on Pinterest as a source of lesson plans. Some of the pre-service teachers took this advice to heart. As one wrote:

I picked out different items from the classroom that represented shapes. I thought using real props from the classroom would be more beneficial to students than showing them shapes I drew.

141

On the other hand, the use of "real" things (manipulatives) created more potential for distraction. When attractive materials are used in a lesson, children may focus on playing with the materials rather than paying attention to the teacher's instruction. Many novice teachers lack the expertise to control such student behavior, especially when a new and attractive manipulative grabs their attention.

The pre-service teachers also struggled with the problem of bringing too many or too few manipulatives to the classroom. As one said, "I would only give each student one writing utensil to use to draw their object. The students having access to so many various options led to me not being able to gain back their attention quickly enough." Another one also reflected: "I realize that when you give three-year-olds a lot of materials to use, they are most likely going to fight over them." Another remarked:

> I also would have included fewer materials, because it might have overwhelmed the students to have so much to look at. When we were all discussing each item, I should have put the bins on the ground the entire time so that students would not pick up more items and be distracted.

Similarly, the pre-service teacher in Figure 5-2b faced a problem not only because students weren't familiar with the materials, but also because she prepared too many manipulatives. Too many manipulatives can become a source of distraction for students, while too few can also lead to problems: "Another thing I could have done better was have more paintbrushes available so the students could paint on their paper at the same time rather than having to share one paintbrush." Insufficient materials may lead to conflict among students.

Another requirement for planning a good lesson is being attentive to the students' stages of learning and development. For example, one pre-service teacher talked about how she chose a book for teaching about body parts:

> The only problem I had was the book I selected for my lesson. I could not find what I was looking for. I ended up reading "The Busy Body Book" by Lizzy Rockwell to my students. It was a grade or two above their level, so I ended up reading the first half to them. In the book, it never really specified body parts like I wanted it to.

Being unable to find a suitable book for this age group of students, she chose pages to read and added her own explanation to some pages while skipping content that was too difficult. Another pre-service teacher reflected: "The story was six minutes long, which might have been a little too long to hold the students' attention. After I finished reading, they all started looking around and getting antsy, like they were ready for centers [i.e., small group activities]." Teachers also must consider children's motor skills when designing activities. For example, as shown in Figure 5-3, students were making noodle necklaces according to color patterns. The pre-service teacher reflected on the problem she encountered in this lesson:

> As the students began stringing the noodles, I realized that the noodles were too big for their small hands and the string was too small. The students were having a hard time with this step and I think this was one major aspect that slowed down our lesson.

Also before having students begin to manipulate the materials by themselves, teachers should give clear instructions and model the procedures for students. The same pre-service teacher later reflected:

> I should have instructed them in the very beginning of the lesson to not remove their string from their tape without my help because when one of the students pulled his up, his

entire necklace fell apart. We had to redo his necklace at a later time but if I had

emphasized to not remove the tape, his necklace would have stayed in tact.

Figure 5-3. Difficulties with teaching materials and procedures.

Unfamiliar materials may make a lesson better or worse. As shown in Figure 5-4, Cate demonstrated how to paint with thick dabs of paint with her hands. The students were curious about this unfamiliar material but hesitant to touch the paint—some students refused to touch it, even though Cate told them they could wash their hands after the activity. The boy in the blue shirt kept asking, "What's that?" The boy was very timid about touching it at first, but eventually he tried it. However, he simply played with the paint and distracted classmates by talking about how strange it felt instead of following the directions and engaging in the activity.

Figure 5-4. A student is distracted by unfamiliar materials.

Cate had to revise her plan and spend a lot of time explaining the materials to students and repeating the directions. She reflected:

> I was surprised that the students did not know what to do with the paint. They just looked at it and asked me what it was. I was planning on walking around the table as the children painted, but the kids did not know how to use this kind of paint so I had to demonstrate for them. I think the students learned how to use foam paint, which was not in my lesson because I assumed they knew how to use it already. When it came to the painting portion of the lesson I thought I gave clear instructions with the paint, but the students had no idea what to do. I should have explained what kind of paint we were using the paint with and how students needed to use it.

An opposite example is found in a lesson in which another pre-service teacher introduced dice for the first time (Figure 5-5). The students adjusted quickly to the new manipulatives and used them correctly:

> Many of them expressed to me that they had never seen dice before and I realized the importance of new materials in the classroom. When planning the lesson I made notes on what to say to keep the children appropriately using the dice. I did not want half the lesson to be the children chasing the dice across the room. This teaching section went well within my lesson and I was happy I had prepared to mention the ways to roll a dice to the children. Only three dice went off the table, which is highly successful for Pre-K students.

Figure 5-5. Explaining dice and showing how to roll them.

When introducing new materials to a class, the important thing is not just what the material is, but how the teacher introduces and explains it to the students. In a complex actor-network involving not only human actors but multiple non-human actants, new materials that are introduced to the classroom play a significant role, with power both to facilitate and to interfere with human interactions and engagement.

Earlier, we have discussed how video can be used to prompt reflection on one's teaching practice by capturing the interactions and behaviors of teachers and their students; however, as we introduce ANT, it becomes clear that this role of video also extends to the classroom context, including layout, materials, and all non-human actants. Reviewing their own and others' videos not only makes pre-service teachers think about bodily techniques, but also provides a chance for them to reflect on the dynamic network of interactions between the teacher, students, and materials. As one pre-service teacher wrote:

> Something I would definitely change was letting the children hold the picture cards after
> they had finished using them. I need a bowl [something to hold the cards]. The students

started to throw them at each other and I had trouble getting them redirected once this

started happening.

The videos make the relationships among actors more clear. This pre-service teacher (quoted above) figured out that the picture cards were a factor in her students' misbehavior. Other pre-service teachers also used their video-reflection to notice how they could have used materials more effectively:

One of the biggest modifications that I made was [deciding] what shapes [of blocks] to hand out and when to hand them out [see Figure 5-6]. I used some small geo-shapes of different colors and shapes for my lesson, and one of those shapes was a sphere. I had a lot of problems in the first group because the spheres rolled all over the table, ultimately resulting in the box of geo-shapes being knocked over by a child onto the floor. During my second lesson, I remembered to remove these as I was handing them out to the children.

Figure 5-6. Student distracted and playing with a sphere-shaped block.

Videos proved to be very useful for calling pre-service teachers' attention to their use of space and materials. Many of the pre-service teachers' reflections in their final portfolios showed dramatic changes in their use of materials. Their comments showed that they had learned to reflect on the larger context of the classroom as seen in their videos and to attend to the roles and interactions of different actors and actants.

Uncertain, Unpredictable, and Unstable Actor-networks

In a classroom, the relationships connecting the teacher, students, and materials are unstable and ever-changing, requiring the teacher continuously to monitor the situation and adjust her strategies. For example, one pre-service teacher wrote:

> I think I made good use of the materials that I had for this lesson. I did not introduce the paint or the papers until after I finished reading the book so the students would not be distracted and wondering what we were going to be doing with those materials. I made sure to keep the paints in front of me so it would not make a large mess and the students would not be able to grab them or knock them over by accident.

This pre-service teacher's reflection shows her awareness of the interactive roles of the actors/actants in her lesson—including the pre-service teacher, the students, the book, and the paints. When this teacher finished reading and started the next activity (painting), the relationship among the actors changed. Teachers in these situations need to make adjustments to restore the balance of actors—to ensure that all of the primary actors/actants present are acting in harmony, rather than in conflict, in relation to the goals of the lesson. If this teacher had put out the painting materials earlier, the materials may have diverted students' attention away from the reading; in the same way, if after reading, the teacher did not put the book away, some students may have still focused on the reading and had difficulty moving on to the next activity.

Pre-service teachers need to learn to appreciate the power of materials; toys, clay, paint, and other manipulatives have the power to draw children's hands towards them, even if the teacher tells them to wait! That's why experienced teachers do not put materials out on the table before they are ready to let the children touch and hold them. No textbook or mentor teacher can provide a novice teacher with a sure-fire algorithm for determining when to introduce and take away materials. This decision requires a complex calculation of the "attractiveness" of the particular objects, the role the objects are expected to play in scaffolding the children's interactions and learning, and the need for the teacher to command the children's attention at different junctures of the lesson.

Pre-service teachers need opportunities to observe how such networks of people and things function in classrooms. Sørensen (2009) noted the "fluidity" of technology in its interaction with—and development through—human users:

The metaphor of fluidity allows us to think about technology as changing and varying. It teaches us that changing and varying processes can also be stable, and that stability may

150

lie elsewhere than in immutability and control—that it may lie in the process of change.

(p. 85)

Even earlier in the semester, before we explicitly covered embodied practice in their methods course, many of the pre-service teachers intuitively responded to and reflected on the complex interactions of classroom materials and human users. For instance, one pre-service teacher reflected in her midterm reflection paper on her problems with materials:

I would definitely change the fact that I had the materials lying out before the students got there. I caught the students playing with the materials while I was reading and doing the felt board activity.

Another wrote:

I introduced the props way too early in my lesson. I set up my lesson before the students came over to the kidney table and laid out all masks where each student would work at. I realized almost immediately that having the mask out was a bad idea, because they started playing with them right when they sat down. The masks were big distractions throughout the whole lesson.

In the actor network of a preschool classroom the power of each actor changes quickly and unpredictably, which means that a temporal dimension needs to be incorporated when calculating the interactions of teacher, children, and things. Even in a ten-minute lesson the flows of attention and attraction between people and things fluctuate dramatically. As one participant remarked:

Although the materials did engage them, they also quickly became a distraction since I did not set an appropriate time limit for them to use the paint and unifix cubes. Since I left the paint on the table, many students began painting again once they were already

finished and should have been measuring with the unifix cubes. A few students also

began to make tall towers and swords with the unifix cubes when I was working with

other students on their counting. When I was watching my lesson, I realized that I should

have probably taken the paint up way earlier than I did.

The ability to recognize such rapid fluctuations and to employ strategies to deal with them

requires experience and practice. However, amidst the flow of teaching, these moments are

fleeting and elusive—and are thus difficult to remember and reflect on. Video can slow down

and pinpoint these moments, giving pre-service teachers the chance to rethink and re-experience

them.

I discussed the importance of movement/positioning as a bodily technique in Chapter 4.

Movement and positioning are crucial bodily techniques teachers can use to mediate and

facilitate how children interact with materials and with each other. By changing her position and

location, a teacher can change the relationship among actors in the classroom. For example, one

pre-service teacher reflected on how moving could have worked to resolve a conflict over an

object among students:

Another embodied practice I tried to work on was moving around during my lesson. I did

more of it this time, but think there were more opportunities that I could have taken to

move, such as when the boys were both wanting the scarf, I could have put myself in

between them at the start rather than letting it escalate.

Teacher's interventions may change the relationships—both between students and each other and

between students and objects—and thereby reduce tension, allowing the lesson to proceed. One

supervisor, who learned to teach in Korea, suggested that it is crucial for a teacher to learn to

attend to how her classroom design impacts potential or likely movement pathways for students (and for herself) during any given lesson:

> When I was an undergraduate student, our instructor really highlighted that you should think about—how can I say this in English?—the Korean way is just to say "children's movement line." You should think about that, and create the environment always thinking about the children and the teacher's movement line or flow.

This supervisor emphasized the importance not just of tracking the movement of children, but of following the flow of all actors/actants in the classroom. Doing this helps the pre-service teacher become sensitive to the relationships among actors in a network. We can see such an awareness developing in the comments of one pre-service teacher who said (in a group interview conducted in the semester following her field experience):

> I still think, "Okay, I need to be moving around when I'm telling them this—maybe walk around instead of just sitting here and reading this picture book to them." One thing I really learned a lot is that embodied practice, and teaching those kids—instead of standing there and acting like a robot, but like, actually interacting with them, like getting close to them—it was definitely very beneficial, and I still use it, so I try really hard to use it. I'm not perfect at that, but I try to use it, even in the class I am in right now.

Because actor-networks in preschool classrooms tend to change so quickly and frequently, teachers need to make in-the-moment decisions that take into account lesson plans, children's interests and moods, and classroom spaces and objects. Reviewing videos of their lessons gives pre-service teachers opportunities that are otherwise lacking to track the movements and interactions of actors and actants.

153

Spatiality and Sociality

I am concerned with two meanings of spatiality; one is physical, and the other is social. One is a focus on how the teacher's body is positioned in relation to physical things, such as tables, books, and materials. A second focus—social space—concerns the how spatial relationships affect and interact with people. Goffman (1963) called this "the spatiality of embodiment." Sørense (2009) wrote that spatiality is "[t]he way the arrangement of human and nonhuman bodies shapes human learners and their knowledge of the world. Stuff itself both shapes and is shaped by and, in that sense, is emergent from interactivity" (p. 70).

I discussed spatiality in Chapter 4 where I explored the relationship between pre-service teachers and the locations in the classroom where they chose to conduct their lessons. My focus in this chapter is on how the pre-service teachers located themselves vis-à-vis the objects and materials in the classroom. Many of the pre-service teachers described struggles about where to set up materials for their lessons. As one participant wrote: "Another thing would be to have the material in arms' reach. That way, I'm not having to get up from the table and turn my back to the students to get the materials needed." Another pre-service teacher commented on temporal as well as spatial considerations in the positioning of materials:

> I had my props sitting beside me instead of where the students could see them. This has
>
> multiple benefits. The students cannot play with them while I am reading. It also forces
>
> them to anticipate what we are doing next. I thought it was important for me to use props
>
> to keep my students engaged in the lesson. The props also helped me fulfill the standards
>
> I was teaching.

Some of the problems pre-service teachers encountered resulted from the interaction of space and materials. For example, as shown in Figure 5-7, two boys had a conflict over space

because the sheets of paper the pre-service teacher gave them to work with were so big. In this

example, space enters its social dimension. As Sørense (2009) wrote of the concept of space,

> It is a multitude of spaces: "geographical, economic, demographic, sociological,
>
> ecological, political, commercial, global, and mental… I concentrate on the spaces—in
>
> plural emerging through the particular patterns in which materialities interrelate. (p. 71)

Figure 5-7. Fighting over space.

Pre-service teachers must learn not only how to use suitable materials for pedagogical purposes, but also how to interact with students through their bodies and materials, and how to help their students construct appropriate spatial relationships with classmates. As the pre-service teacher whose lesson is shown in Figure 5-7 reflected,

> The papers were too big though and the children were upset at first that the papers were touching one another's at times. This kind of issue is one I felt like they need to practice working out on their own.

This pre-service teacher correctly recognized the two boys' argument over physical space as a form of social interaction.

One Pre-service Teacher's Dilemma

In this chapter I have discussed pre-service teachers' use of materials from three perspectives. One relates to how the classroom materials, as nonhuman "actants," can have major impacts on the pre-service teachers' lessons. A second perspective is on how the relationships among actors, both human and non-human, are constantly changing—sometimes unpredictably. Finally, from the perspective of actor-network theory, space is both physical and social. In the following example, as shown in Figure 5-8, these three perspectives can be seen as working together. One pre-service teacher, Lucia, carefully and thoughtfully planned her teaching materials:

> I decided to use the toy fruits that are available to the kids in the classroom, as I have seen the kids playing with them on multiple occasions and wanted to use something that they are familiar with. I had seen all of these students participate in play centering around the toy foods, so I knew that they would engage more with it than they would with abstract discussion about each food or even with printed-out images of each food.

Lucia began by observing how children interacted with materials and each other in the classroom, and then for her lesson, she decided to use toy food instead of images or pictures of food (as did some of her classmates). When Lucia taught her lesson, these materials successfully held the children's attention and mediated their interactions.

Figure 5-8. A lesson using manipulatives (toy fruit).

Lucia allocated enough physical space for the students well, and she made a good decision about where to locate herself; as she reflected, "I go around to each child to make sure he or she is engaging in the activity, which is made possible by the fact that I am positioned in the middle of the table with the children surrounding me in all directions." Reviewing her video, Lucia noticed that, in the lesson, she sometimes focused more on the materials than on the students: " I realize just how much of the lesson involves me touching the materials and me doing things while the kids just sit and watch."

As the lesson unfolded, the relationship between teacher, students, and materials changed, at times going smoothly and at other times producing some conflict. For example, at one juncture a boy held the bowl of toy food close to him and away from other children, which caused a distraction. Lucia tried to deal with the problem, but not quite successfully:

> As you can see in the second video, one of the children decided to keep the pot to
> himself, which was not initially an issue because I did not have a set idea in mind of
> what else I could do with the kids during that time. A few moments later, I decided I
> could have them sort the fruits into colors, so I got up and got them some different
> colored bowls to sort with as well as the basket that all the fruits are kept in. I figured I
> would let that child keep the pot, but then he started grabbing all of the fruits that were in
> the basket and putting them into the pot, not letting the other kids have them. I became
> frustrated very quickly, attempting to grab the pot from him without any success.

Reviewing her video gave Lucia the chance to rethink this dilemma, as she reflected:

> What I realized afterwards was that I should have never allowed him to keep the pot in
> the first place, as I had the opportunity at one point to take it away and replace it with a
> bowl that was the same size as the bowls that the other kids got.

The pre-service teachers in this study struggled with the use of materials, which they felt were indispensable to their lessons but which also often caused disagreements among children and distracted them from the main focus of the lesson. In the classroom, materials are a third actor, along with the teacher and the students. Moreover, in addition to the three actors/actants already discussed earlier in this chapter (teacher, students, and materials), we can say that space is a fourth actor or actant. Pre-service teachers had trouble tracing and balancing the interaction of these factors in the midst of their teaching. However, video reflection gave them a powerful tool to reflect on the complex interactions among the teacher's intent, her embodied actions, her students' bodies and desires, and classroom materials and spaces.

CHAPTER 6

VIDEO MAKES EMBODIED PRACTICES VISIBLE

"The video of the lesson was a great learning tool for me as a teacher. I never realized how important body language was while teaching. I have learned that a teacher's body language shows how engaged he or she is during the lesson that is being taught. Just as the student's body language is important in determining their level of engagement throughout a lesson."

—One pre-service teacher's reflection on the use of video

In this age of Facebook, Twitter, YouTube and Go-Pro cameras, video has become a part of everyday life for young adults—including those who enroll in teacher education programs. As technology advances, video recording and editing is becoming much easier and less expensive, and people are able to share images and videos with anyone over the Internet— anytime and anywhere. Video technologies are also being used increasingly in teacher preparation, to record classroom practices, to record and present exemplary teaching practices, to facilitate reflection, and for teacher assessment and certification.

The chapter 4 focused on the embodied pedagogical techniques the pre-service teachers employed (or didn't employ) in their videotaped midterm and final lessons. This chapter focuses on the videotaping itself and the impacts, both positive and negative, of adding a video portfolio assignment to an early childhood education teacher preparation course. Positive impacts include

the power of video to re-direct attention toward embodied aspects of teaching and to serve as a tool for re-experiencing and reflecting on a lesson. Viewing videos of their teaching makes pre-service teachers more cognizant not only of their use of bodily techniques, but also of non-embodied aspects of teaching (e.g., pedagogical decisions, teaching pace, etc.). On the negative side, requiring pre-service teachers to videotape their own teaching can produce anxiety and contribute to self-conscious, teacher-centered, overly "teacherly" performance in the classroom. Inevitably, there are also technical problems. In this chapter I analyze such positive and negative effects of the Block 2 video assignment in UGA's Early Childhood Education program and then conclude by addressing implications regarding how initial teacher preparation programs can most effectively implement the videotaping requirements of the Teacher Performance Assessment (edTPA) now mandated in many states.

Positive Outcomes of Videos

Reviewing Videos With and Without Audio

People communicate and make meaning both verbally (using speech and writing) and nonverbally (through body language). When reviewing videos of pre-service teachers' instruction, if the sound is turned off, the viewer lacks access to the verbal content, and therefore attention shifts inevitably to the subjects' body language.

In my conference presentations and teaching I often used a one-minute clip (represented in Figure 6-1) from one of the pre-service teachers' videos to illustrate the power of turning off the sound for shifting attention in this way. This clip showed the beginning of a lesson on sorting according to color, in which the pre-service teacher, Amy (pseudonym), was using toy bears of three different colors to introduce the day's topic. She asked the students how many different colors of bears were on the table. Whenever I showed the video with sound, most

people commented on the types of questions Amy asked, how she organized the lesson, and the kinds of responses she gave to students. When I turned the audio off, people started to notice different aspects of Amy's teaching. As captured in Figure 6-1, Amy made eye contact with students, pointed to the names of the colors, communicated approval with facial expression, and held the clipboard properly (i.e., without blocking the students' view).

Figure 6-1. Using eye contact, facial expression, gestures, and materials.

The course instructor, Joseph Tobin, turned the sound off several times when showing videos and encouraged the students to try this technique when watching and reflecting on their videos. Several of the students commented on the value of turning off the sound in their portfolio reflections. For example, one wrote:

I watched my video with sound the first time and without sound the second time. It is a lot easier to watch the video without sound. I could clearly see that teaching is not all about what we are saying, but how we present the information with our bodies. I could see the connection I was making with students when the sound was off more clearly than when the sound was on. I think this is because I am more critical of what I am saying than [of] my body language. Watching my video with and without sound was a very helpful strategy I used to help me decide what was effective and what was not effective with my teaching.

As another pre-service teacher reflected:

Watching the video with and without sound also added a new level of reflection. The first time, I focused very heavily on the speech and actions of myself and the students. The second viewing gave me more insight into the embodied components of the lesson, the students' engagement levels, and the tone established during certain points of the lesson. I gained different insights from both viewing styles, yet both were equally valuable in reflecting on the content in the video.

Turning off the sound, and thereby shutting down the verbal channel of communication, helped the pre-service teachers to focus more on the nonverbal dimension of teaching.

Also, turning off the sound turned the pre-service teachers' attention not only to their own embodied practice, but also to the cues to be found in students' body language. As one pre-service teacher mentioned:

As I watch my second video without sound, I am not actually engaging all of the kids at once, but trying to talk with one or two of them. At one point, for example, I start flipping the book back open to find inspiration with only two kids looking at it with me while the

other kids continued playing around with the fruits. During this point, my facial expression shows a lot of confusion.

Watching the videos with and without sound can capture and reveal the impact of embodied moments that otherwise would be missed by pre-service teachers, allowing them to notice, re-experience, and reflect on them:

> Turning the sound on obviously adds another layer to what all is taking place. Though my voice is hard to discern, I immediately noticed the tonality of my voice. It changes throughout the video to correspond with my expressions. I also vary from speaking softly to loudly in order to make myself more interesting for the students. Lastly, in viewing my video with the sound on, I recognized that I was far more responsive to the students' comments and answers than in my first video. I made eye contact with and leaned towards students while they were talking, as opposed to ignoring responses I deemed as incorrect.

As the above pre-service teacher rightly observed, verbal information "adds another layer" to the context; another pre-service teacher also remarked:

> As I watch the second video with sound, it's interesting to see how my voice changes according to the things I just mentioned. When I'm engaged, I am animated and "with it"; when I am trying to think of something to do, I am more monotone.

Another participant reflected:

> In watching my video the first time through (without sound), I noticed that I change my posture throughout the lesson. I lean in towards the three students to listen to their responses, but I also sit erect when reading the book. Also, when I lean in I can focus on an individual, whereas when I'm sitting upright all three students are in view. All of the

165

above I was able to detect by watching my video without sound. However, turning the

sound on obviously adds another layer to what all is taking place.

When the sound is on, the pre-service teachers can also notice and reflect on how they respond to

students' questions verbally, and how their tone and pitch change to attract students' attention;

for example: "With the sound on, my first video is great because my voice is not monotone, but

full of excitement." However, when the sound is turned off, they naturally transfer their

attention to the embodied aspects of teaching—even to such aspects as require consideration of

the larger context, like positioning. As one pre-service teacher mentioned:

> In watching my video the first time through (without sound), the initial thing I noticed
>
> was my location. I tried to position myself close to the children, in order to engage them
>
> in spite of the flurry of activity around us.

> Turning off the sound helped the pre-service teachers, as well as their instructors who

viewed and commented on their videos, attend more to the embodied aspects of their teaching.

On the other hand, with the sound off, one key aspect of embodied teaching, the use of the voice,

is lost. With the sound on, the viewers tend to engage with the video as a narrative, as a short

film with a plot and characters and dialogue, and they find it easy to judge the lesson as

successful or unsuccessful. With the sound off, it's more difficult to view the video as a story

and the focus of attention and assessment therefore shifts to judging the pre-service teacher's

techniques of the body in terms of their effectiveness.

Non-embodied Aspects of Teaching

Videotaping their teaching makes pre-service teachers become more conscious about

their bodily techniques; at the same time, videotaping also helps them attend to non-embodied

aspects of their teaching. Videotapes of teaching can be watched repeatedly, allowing pre-

service teachers to re-experience and retrospectively assess their teaching. During such repeat-viewing sessions, they notice things they did well and things they did awkwardly, as well as aspects of their students' engagement they missed while teaching the lesson.

Comparing teaching to being a musician in his book *Culture And Pedagogy: International Comparisons In Primary Education*, Alexander (2001) identified "pace" or "tempo" as one key non-embodied aspect of teaching. A lesson can be taught too quickly or too slowly, and there can be too much—or, more commonly, too little—wait time after asking questions. As one pre-service student reflected on her video:

> Another improvement that I realized needs to be made is in the way I asked questions and waited for students to respond. I would ask, "Who can tell me what a pattern is?" but instead of letting the students think critically about what they know, I half-listened to their mumblings and then moved on to my next point. In watching the video, I can see that I missed some really crucial opportunities for student learning in these moments.

The pre-service teachers tended to rush during their teaching. Hayashi and Tobin (2015) suggested that a feeling of not having enough time and things happening too quickly is a characteristic of teachers early in their career. Feeling pressure to get through their lesson plan in the time allotted to them by their host teacher, the pre-service teachers often rush, leading them to provide inadequate explanations, ignore student responses, and leave too little time for students to talk and think. The camera captured some of these moments, allowing the pre-service teachers to notice and reflect on them. As one pre-service teacher wrote:

> The pacing of the lesson flowed pretty smoothly. Pause was included at times on purpose but it did not create empty spaces. Pause can be used throughout a lesson to allow for an appropriate "wait time" to give students a chance to respond or add to discussion. When

pacing this lesson, I tried to incorporate wait time with redirection. I tried to offer some

wait time to see if she attempted to create the letter.

Ten of the twenty-three pre-service teachers in this study reflected on the pace of their teaching;

all but two indicated they felt they needed to improve this skill. Five of these ten mentioned that

the videos helped them notice the problem of not leaving enough time for students to think and

answer questions. Teaching pace and wait-time are difficult concepts to teach to pre-service

teachers. No textbook and no mentor teacher can tell you how many seconds you should give a

student to respond to a question or how fast or slow to speak while teaching. These are aspects

of teaching that usually are missed in approaches to teacher education that focus on professors

evaluating lesson plans and responding to student journal entries based on their recollections of

how the lesson went. The videotaping of lessons provides a mechanism for pre-service teachers

to re-experience these moments and rethink their teaching techniques.

Another non-embodied aspect of teaching is how teachers make in-the-moment

decisions. For example, one participant commented:

I also noticed a point during the video when one of the students was asking me a

question about the book and I brushed it off saying that we needed to finish the book.

Instead, I should have accepted her question as a learning opportunity for all students.

Because lessons rarely if ever go exactly according to plan, making quick decisions is a

crucial ability [for a] teacher.

As one instructor said in a group interview:

Never in teaching do you get up and it's perfect. But if it's not perfect, then what do you

do to modify it to get the moment back? That's what's graded. You're not really graded

on what the kids do. You're graded on what choices you make as a teacher.

Second-semester pre-service teachers, lacking the experience to make quick but suitable

decision, often make mistakes. Videotaping gives them a chance to re-experience moments

where the flow of a lesson broke down and to think about whether the decisions they made in the

moment were appropriate or not. Reviewing the videos gives them a chance for reflecting,

which is a key process of learning from experiences and developing practical knowledge. For

example, as seen in Figure 6-2, a little boy came to the table for a lesson with a picture book.

Throughout this 16-minute long lesson, this boy and the other students at the table were

distracted by this book 15 times; the teacher tried 5 times to take the book away. Finally, at 13

minutes into the lesson, she took the book away from the boy to put a stop to the distraction. In

the reflection paper, she wrote:

> I think that for the students to respect me, they need to know what I say has authority and
>
> that they cannot keep doing it without getting in trouble. For example, if I gave Alex
>
> (pseudonym) a warning once about the book and then saw it out the next time, I should
>
> have taken it from him then or have had him put it in his cabinet. Instead, he would listen
>
> and put it under the table, but then kept bringing it back out and would not be paying
>
> attention to the lesson. This is something that I struggle with because I don't want to take
>
> away from the lesson by really enforcing it, but looking back I now know I should have
>
> handled it differently.

As this pre-service teacher reflected when she reviewed the video, she realized that she hadn't

dealt with this issue well, and considered other things she could have done. This video-aided

process helped her develop her professional skills in classroom management.

Figure 6-2. Responding to a student who is distracting himself and others with a book.

In the Early Childhood Education teaching methods course, the instructors talked a lot about the differences between teacher-centered and children-centered pedagogy and encouraged pre-service teachers to use more child-centered approaches. Most of our pre-service teachers

seemed to understand and agree with this idea in principle, but struggled to follow it practice. As one participant wrote:

> I didn't realize how much talking I had done until watching the video. While this was an interactive activity, I felt like my voice hindered the kids from exploring the materials and developing their own ideas. I prompted them a lot instead of allowing them to explain their thoughts in their own words.

There are many such instances in the videos of pre-service teachers talking too much, of teachers speaking much more during the lessons than do their students, of teachers giving the answers to the questions they ask, of teachers handling the materials while children watch, and generally of leaving too little space or time for students to think, talk, and act. As one pre-service teacher reflected: "I also realized towards the end of my video that instead of allowing my students to think about the colors and animals they have learned, I was doing all the leading." Also teachers tried to finish the lesson as soon as possible and didn't give students enough time to think and respond:

> I think I tend to speed up the lesson as I am teaching because I think they get it, and I don't want to end up boring them. However, if I had to do it differently next time, I wish I had allowed them more time to think and take things in instead of rushing them so much.

Pacing, wait-time, and balanced input from the teacher and students are key non-embodied aspects of teaching that are more accessible in videos than in journal reflections or even direct observations of student teachers by university supervisors.

The Learning, Practice, and Improvement of Bodily Techniques

When thinking about embodied practice we are confronted with a paradox: on one hand, there is much scholarship that suggests these practices are largely done without conscious thought or intention (Mauss, Bourdieu, Crossley, Hayashi & Tobin, etc). Crossley (2007), for instance, wrote:

Typing, for example, involves movement of my fingers, arms, eyes, head etc. This is purposive, intelligent and cultured movement… My fingers know where to go without me having to look or search but I couldn't discursively describe where individual letters are. My knowledge of the keyboard is practical, pre-reflective and embodied. And from the point of view of my consciousness, my body "just moves" appropriately, without my interference… From the point of view of consciousness, culturally appropriate bodily action and coordination "just happens" and falls below the threshold of perception and reflective knowledge. (p. 83)

On the other hand, practitioners in many professions, including sports and dancing, work intentionally to improve their bodily techniques. Even though most embodied practices are unconscious and habitual in their everyday applications, they also can be learned, practiced, and improved. Is learning to use the body effectively when teaching more like learning to type, which, once learned, is done mostly unconsciously, or more like learning ballet or golf, in which even highly skilled practitioners must continuously consciously work to maintain and improve their techniques?

In sports and dance, videos play a crucial role in both initial and ongoing training. Might the same thing be true for teaching? Hayashi and Tobin (2015) wrote,

A teacher's bodily movements are not merely physical and natural but also mental and acquired. As teachers develop in their practice, moving from preparatory programs to their first years in the classroom, they acquire not only content and pedagogical knowledge, but also bodily techniques. (p. 3)

Jane White (1989) suggested that student teachers acquire the bodily techniques of their host teachers: "The student teachers physically imitate the posture, the voice tones, the 'dirty looks' and the ways their [mentor] teachers use space to establish a commanding presence" (p. 193). The evidence of the present study suggests that pre-service teachers can also learn bodily techniques through video-aided reflection.

Some researchers have questioned the value of written reflections, because there is always the possibility that a pre-service teacher may be merely writing what she believes her professor wants to hear; however, video reflection has the significant advantage over reflecting from memory of grounding the reflection in an actual instance documented in a video. Of course, it is still possible for students to be selective—or to a certain extent, even deceptive—in their citation of video evidence; however, the requirement to use such evidence is a check against the temptation to falsify or exaggerate examples in pre-service teachers' classroom experiences. Pre-service teachers' videos can also provide concrete examples for classmates, instructors, and university supervisors to share.

Moreover, the incorporation of video into reflection assignments opens the door to reflection *in* action, rather than merely reflection *on* action (Schon, 1983). Reflecting retrospectively on actions that occurred in the course of a lesson limits a pre-service teacher to his/her own memory. However, revisiting a lesson through video can bring a pre-service teacher back into specific moments and actions so that he/she may reflect with more lucidity and clarity.

In this way, video-based reflection is also more conducive to a type of reflection that is forward-looking. Viewing a video recording of a particular situation and reacting to it in real time tends to stimulate the type of reaction that says, "What could I have done differently here," or even "How should I fix this in the future?" As pre-service teachers review videos of their teaching, their embodied practice becomes more visible to them, and with subsequent practice and repeated videotaping, improving these techniques can become a natural part of teaching practice.

Before the embodied dimensions of teaching were discussed in the teaching methods course, most pre-service teachers did not realize that their bodies could be employed as useful pedagogical tools in the classroom. Several pre-service students commented on this in their reflections:

> Without the video, I would not have noticed certain components of the lesson, such as the students' lack of engagement when the book was on the other side of the table or my own use of embodied practices.

After pre-service teachers became more aware of using their bodies in teaching, they also found that these bodily techniques not only could be learned, but they also could be improved through practice. Experienced teachers have idiosyncratic habits in regard to using their bodies in their teaching. But they also share with their peers a bodily 'habitus' that is characteristic of their gender and culture. Mauss (1973) suggested that English men walk and swim differently than French men. I suggest that the same is true for teaching, and that male teachers will use their bodies somewhat differently than female teachers, and American teachers differently than Chinese teachers, and so on. Part of becoming a teacher in any culture is learning to use one's body in ways that make one look like a teacher.

Many of the pre-service teachers commented on how their bodily practices became more polished, thanks, in part, to the videotaping. One wrote:

After watching and analyzing my second recorded lesson, I found that I did a better job at using my body as a primary teaching tool. I noticed that my hands were immediately on top of the table as opposed to underneath the table in my lap, as they had been during my first lesson. I reached out to the kids and used hand motions and movements to gain their attention.

Another also remarked,

In contrast to my first lesson, I use posture and gaze more effectively. This time I felt more relaxed and comfortable in front of the camera. My eyes rarely focus on the camera and my body indicates I am focused on the students.

After the midterm assignment, the instructor talked about embodied teaching in the class with the pre-service teachers and in class they reviewed some of the students' midterm videos and discussed how to use the body effectively in teaching. From reviewing the final videos and reflections, it is clear that most of the pre-service teachers saw some improvement in their pedagogical use of the body. Table 6-1 and Figure 6-3 combine the video and reflection paper data presented in the chapter 4 (pp. 95-97). My analyses of their midterm and final videos provide evidence that their use of bodily techniques increased from the midterm to the final. Analysis of pre-service teachers' reflection papers shows that they were more conscious of bodily techniques and reflected more on them at the end of the semester. The data from these two sources combined support the claim that bodily techniques can be learned, practiced, and improved.

	Video Analysis		Reflection Paper	
Bodily Techniques	Midterm	Final	Midterm	Final
Facial Expression	23	23	13	15
Gaze	23	23	15	20
Voice	23	23	15	16
Gesture	20	22	10	13
Posture	17	19	12	12
Positioning	15	21	13	23
Touch	7	11	5	10
Summary	128	142	83	109

Table 6-1. Attestation of bodily techniques in videos and reflection papers.
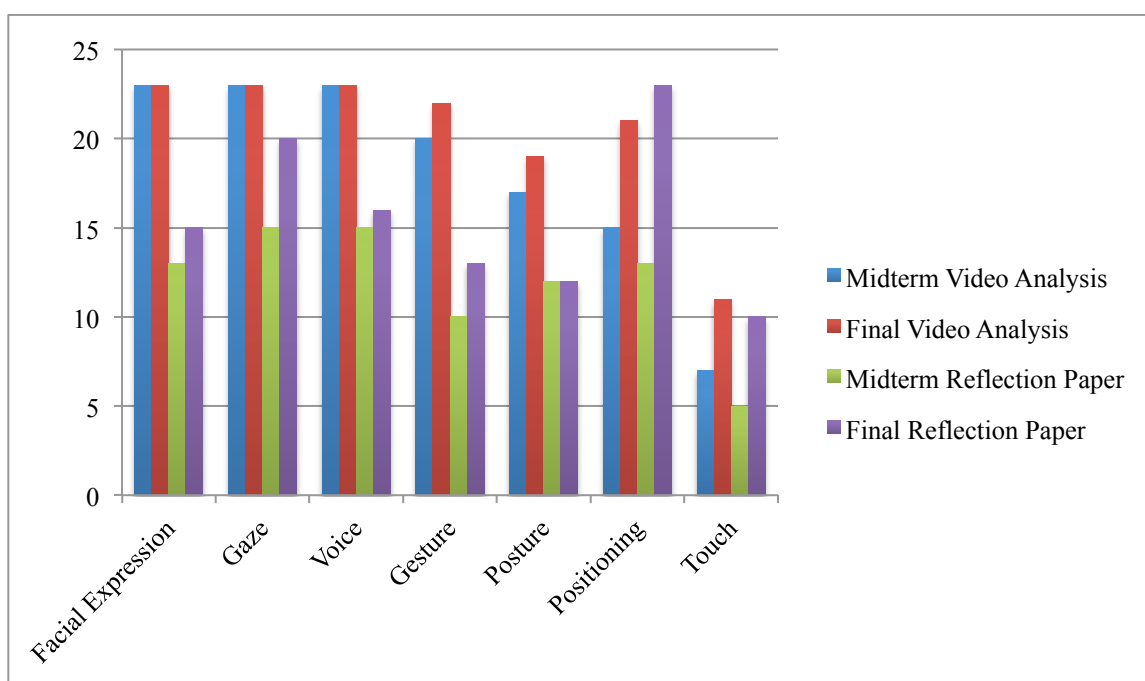
Figure 6-3. Bar graph of the data in Table 6-1

Negative Effects of Videos

Reactions of Self-confrontation, Self-criticism, and Pride

Fuller and Manning (1973) suggested that for young pre-service teachers, viewing a video of themselves is a process of "self-confrontation." They found in their study that some students felt frustrated by being videotaped, and when they watched their videos, they tended to

be overly self-critical to the point that they were less able to attend effectively to what they did or to how the students responded to their lesson.

In contrast to Fuller and Manning's study, I found little evidence of "the trauma of self-confrontation" among my participants. Some pre-service teachers early in the semester commented that they felt awkward at the prospect of having to be videotaped and to review videos of their teaching. But most attributed this awkwardness to the newness of the task. As one pre-service teacher wrote in her midterm reflection paper:

> Something else that I need to work on is not looking at the camera. Since this was the first time I was filming myself, I was a little nervous and kept glancing at the camera while I taught my lesson.

Another wrote, "I hate hearing my voice recorded." Some students in the teaching methods class said that it "felt weird" to see themselves as a character in a video. The version of themselves they saw in the video could either be better or worse than their imagined self, as the following comment suggests:

> Watching myself on video was extremely uncomfortable. I avoided it as long as possible just because I like to think that I'm perfect, and didn't want to ruin that illusion of myself. Watching the video showed me many things to work on, but it also showed me not to be so hard on myself and to trust myself and my abilities a little more.

I don't count such comments as evidence to support Fuller and Manning's concept of self-confrontation because these pre-service teachers recovered from these negative feelings very quickly and moved on to how the videos could be used to improve their teaching skills and capture what they failed to notice in the midst of teaching the lesson. Fuller and Manning did not explicitly try to argue that such feelings of self-confrontation must be immutable or

permanent; however, such an impression is at least implicit in the fact that they used this negative understanding of self-confrontation as an argument against using video reflection in teacher education. As one participant remarked, "Even though it is awkward to know you are being filmed you completely forget about it once you get into your lesson." In addition, almost every participant said that she felt much better for her final video assignment:

> After being recorded once, I am much more comfortable with the concept and action of being filmed. While I was aware of the camera, I never really made eye contact with the camera or felt self-conscious. I truly think this experience was a great way to get accustomed to the process of video recording, developing lesson plans, and executing activities with kids!

Some of their initial negative feelings about being videotaped had to do with this being not just their first time being videotaped, but also their first teaching experience. These participants were in their second semester of their teacher preparation program, and for most this was their first time teaching a real lesson to children. As one wrote, "At the beginning of the semester, I was more nervous about the Pre-Kindergarten placement than anything else." Many of the participants in the study had worked with older children in some capacity, but had little or no experience with children as young as 3-4 years old, which left them feeling unprepared for the challenge: "Having no prior experience in Pre-Kindergarten, I was extraordinarily nervous about creating and filming a lesson for this age group." These comments suggest that the pre-service teachers' anxiety was less about being videotaped per se than it was about the entire task being so unfamiliar, challenging, and of such importance to their career.

That having been said, several pre-service teachers reported that watching themselves teach on videotape produced feelings of embarrassment. This was especially true when, for

instance, they encountered problems or dilemmas in their lesson or had difficultly controlling their facial expressions and when showed some negative feelings:

> As I watch my second video, it's hard to watch because my facial expression gives away everything that I'm feeling about the child who [refuses to share the materials]. I look frustrated and defeated at the same time, not really knowing what to do. During this point, my facial expression shows a lot of confusion.

I view such reflections positively, as they suggest the students are aware that the emotions they express unintentionally with their bodies can impact their student's engagement and learning. This awareness led them to strive to maintain a positive demeanor:

> I wish that my facial expression had remained more positive than it did. It seems that I was allowing the feeling of being rushed and constantly moving from student to student to overwhelm me. This feeling is evident in my facial expression at times.

Another pre-service teacher remarked,

> I tried to smile at students as much as possible. However, when students were asking to go outside it was kind of hard to keep smiling because I thought they were going to have fun participating in the lesson. I raised my eyebrows at students to show my emotions. It's important to keep a positive tone and happy face because students' attitudes feed from the teacher.

Even though some of them expressed frustration about their failures in managing their emotions/expression, these negative feelings did not make them feel negatively about the value of being videotaped or make them discouraged about their ability to eventually become a good teacher.

Table 6-2 provides a summary of the positive comments and negative comments pre-service teachers wrote in their reflection papers about their use of bodily techniques in their videos. The data support that their response was more one of pride in their progress than one of being overwhelmed by shame or self-critique. Comparing their comments on the midterm and final videos, it is clear that after doing the midterm portfolio assignment, they become more aware of their bodily techniques and also more confident about using them in their teaching, as the following excerpt from a final reflection paper suggests:

> For the midterm, my anxiety about being videotaped consumed me before and during the lesson. However, this time I tried not to place unnecessary emphasis on the camera. The first video demonstrated to me that I needed to reprioritize. Instead of focusing on creating a perfect video with no mistakes, I needed to pay attention to how I can use the video as a tool to improve my teaching practice. When I watched this video, I felt that I could look at it from a learner's point-of-view [sic].

Bodily Techniques	Midterm positive comments	Midterm negative comments	Final positive comments	Final negative comments
Facial	11	6	14	5
Gaze	13	3	19	2
Voice	12	6	15	3
Gesture	6	5	14	3
Posture	11	3	11	3
Positioning	7	6	19	11
Touch	5	0	10	2
Summary	65	29	102	29

Table 6-2. Comparison of positive and negative comments about using bodily techniques.
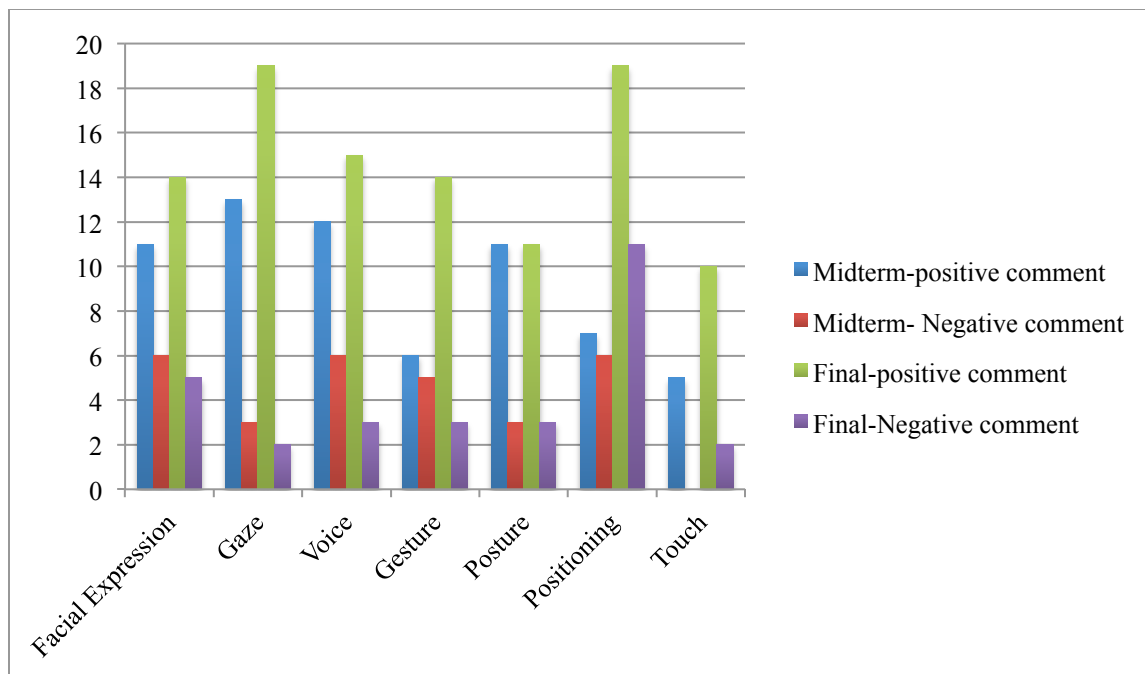
Figure 6-4. Bar graph of the data in Table 6-2.

In total, there were more positive comments in the final reflection. Even though there was the same number of negative comments on the final compared to the midterm, if we don't include "positioning," and "touch," which weren't mentioned much in the midterm, the other five items went down from 23 to 16 in negative comments. The ratio of the total number of positive comments to negative comments went from 2:1 at midterm to 3:1 at final. One pre-service teacher said in a focus-group interview:

> There's always that a little bit of fear, like you never know what's going to happen, you
> have to prepare for the unexpected, but that's just part of this program, and that's what
> you just have to roll with, like, okay, I have no choice, I have to be filmed.

Many pre-service teachers made a similar point that the fear came from the unexpected challenges of the program, and not from the videotaping in and of itself.

Overly Performative Teaching

The desire to be perceived as an effective teacher often drives pre-service teachers to focus on behaving in ways that make them appear convincing in their new role—and that can be easily recognized as "teacherly." As the following pre-service teacher wrote:

> Videotaping my lesson plan was definitely something that was stressful and very
> unfamiliar for me at first. I was nervous about freezing up in front of the camera and
> making my lesson plan more about a looking like a good teacher in a performance than
> actually teaching the students.

Judith Butler (1988) suggested that to be a woman, you have first to respond to interpellations that you are a woman, and thus you must be "feminine," and secondly, you must learn to act in a way that makes you recognizable as a woman. In other words, being a woman is not simply what you are; it is a performance you act out more or less convincingly and that carries the potential (or even inevitability) of falling short.

Butler's (1988) idea of gender performativity can be a useful analogue for understanding "teacherly" performance. Butler argues that what makes something performative is that it allows a person to consolidate a certain identity through repetitive performance. Butler applies this concept to gender, but it can be used, by extension, to conceptualize the performativity of teaching. How does one perform in order to be recognizable as a teacher? I suggest that for pre-service teachers to become "teacherly," they must respond to a certain set of societal expectations for teachers, and once they have entered their teacher preparation programs, they must learn to act or perform in a way that is recognizable as fulfilling the role of an effective teacher. As pre-service teachers try out a variety of teaching performances and as these performances elicit reactions from students, host teachers, and university supervisors and

182

instructors, their identities as teachers become more concretized, though still very much unfinished.

When pre-service teachers are not being directly observed or recorded, they naturally feel a greater sense of freedom to explore their own teaching style and personality; however, when under surveillance (by camera or otherwise), there tends to be a heightened sense of anxiety about appearing sufficiently teacherly. Thus, some of the pre-service teachers in their initial videos spoke much more formally and with a voice that seemed much more "staged" than how they normally spoke in their classes (based on comments from some of their reflection papers and focus-group interviews, as well as interactions with them in their methods course). They speak, dress, and move in ways that they think will make them appear adequately professional.

A few of the pre-service teachers were aware that they were acting unnatural, stilted, or overly performative in their videos. For example, Amy (shown in Figure 6-1) somewhat awkwardly addressed her students with an unusually high level of formality:

> Never once in the video did I call a student by just their first name. I always said "Miss So-and-so" or "Mr. So-and-so" which was extremely infuriating to listen to over and over again. I will definitely make an effort to work on sounding more informal because it seems that, if over used, this way of addressing students would seem degrading or sarcastic.

Another student reflected that she changed her way of speaking when being videotaped:

> While I was being filmed, I felt like I was saying phrases just to impress the camera at the beginning of the lesson. During my review of the lesson, I found myself thinking that I normally wouldn't say some of the sentences that I did say. I truly think this experience was a great way to get accustomed to the video recording.

183

Sensitivity to being videotaped can lead pre-service teachers to change their speech style, grammar, and syntax, to sit or stand with rigid posture in front of the camera, or to reduce their movement during teaching, becoming like a statue. This is a result both of their desire to be continuously seen as doing something visibly "teacherly" and, in the case of the pre-service teachers in this study, that if they moved too much they would leave the frame of the camera, which was fixed on a tripod. As one student commented: "I contemplated getting up and moving near to that child to talk about making her letter but I was worried about moving out of the frame."

However, most of the pre-service teachers seemed to be unaware when they reviewed their videos of this tendency towards hyper-performativity; instead, many were fixated on what they could do next time to appear more "professional." As one wrote,

> I need to really think about what is going to come out of my mouth before I say them because saying things such as "of course all the napkins are on the ground" does not sound professional like I am trying to be.

This pre-service teacher apparently thought that choosing to use more formal words would make her seem more professional. Comments like this one hint at a potentially misguided view of what it may mean to be "professional" as a teacher.

When I compared my analysis of their videos with my observations of these same pre-service teachers on the days when I visited their classrooms, I concluded that they tended to modify their behavior for their videos, for example, by using an uncharacteristic "baby talk" voice on the one hand, or overly-formal speech on the other. Both of these changes in their normal speech register seemed designed to make them appear more "teacherly" and

"professional." However, this kind of teacherly or performative teaching decreased from the midterm to the final. As one participant wrote in her final reflection:

> Overall, I think I look a little more relaxed with the students. I noticed with my facial expressions that I do not have a fake smile on my face the entire time. I think during the first video, I remembered I was being video taped and felt like I had to put on a certain act or face. This time around, I didn't feel like I had to smile or have as much of a "teacher voice." I still smiled frequently when laughing with the kids and such. I think it just felt more informal for both the students and myself.

When these pre-service teachers first faced the camera, they tried to perform like a teacher—or like the effective teacher of their imagination. The irony is that pre-service teachers want so desperately to feel and be perceived as teacherly that in front of the camera they sometimes perform in a way that makes them appear less competent than they show themselves to be in other contexts.

Technical Issues

Pre-service teachers ran into many technical challenges with the video assignment. The first challenge was choosing which equipment was most suitable for the task. Someone chose to use a "Swivel," a device purchased by the College of Education for the purpose of making edTPA videos. The Swivel is a unit that includes a small microphone/tracking device the teacher pins to her lapel that also sends a signal to an iPhone or iPad mounted on a tripod, which allows the camera to track her movements. The Swivel turned out to be great for voice capture, but it also created unanticipated problems. As one pre-service teacher commented:

> When it comes to getting up and walking around, that is difficult to do because of the situation. It is more effective for me to remain seated. One reason is a technical reason

185

with the camera. The swivel would move too much out of the picture if I moved around

too much.

The Swivel follows the wireless microphone on the teacher, but often cannot keep up with her.

Also, if the teacher is close to a group of students and the microphone picks up their voice, the

Swivel will center the camera on them. Moreover, if the pre-service teachers shot their videos

using an iPad, the students could see themselves on the screen, which usually led students to

wave or make faces. More than one participant reflected on these issues (exemplified in Figure

6-5):

> The front-facing camera proved to be very distracting during the lesson. I tried to offset
>
> this by allowing them to make funny faces into the camera before I started the lesson.
>
> The one girl who constantly had her face in the camera probably would have been more
>
> focused if she was sitting closer to me.

Figure 6-5. Students distracted and performing in front of the camera.

Some pre-service teachers decided to not use the Swivel, which left them without a wireless microphone (the Swivel does not allow for the tracking function to be turned off), and then were disappointed in the quality of the audio they recorded. When they taught a small group of children in a classroom with considerable background noise, their voice and/or the children's voices were often not audible. In some cases the video included sound from other groups of children. Whatever equipment choices were made, the children were curious about the camera, often requiring the pre-service teachers to intervene:

> The children were distracted by the camera at first. I needed to redirect them multiple times. There were a lot of waving hands and questions raised about why it was there in the first place. This was quite the distraction as I began the lesson.

The pre-service teachers also needed to think about the lighting of the classroom and the camera's location. As shown in Figure 6-6a, the lighting is poor and the boy almost blocks this pre-service teacher's face throughout the whole lesson. In Figure 6-6b, the camera angle is too

low, so the materials on the table are not clearly visible. Another issue during videotaping was

with keeping the camera stable, for instance, when iPhones or iPads were not attached to a stable

tripod.
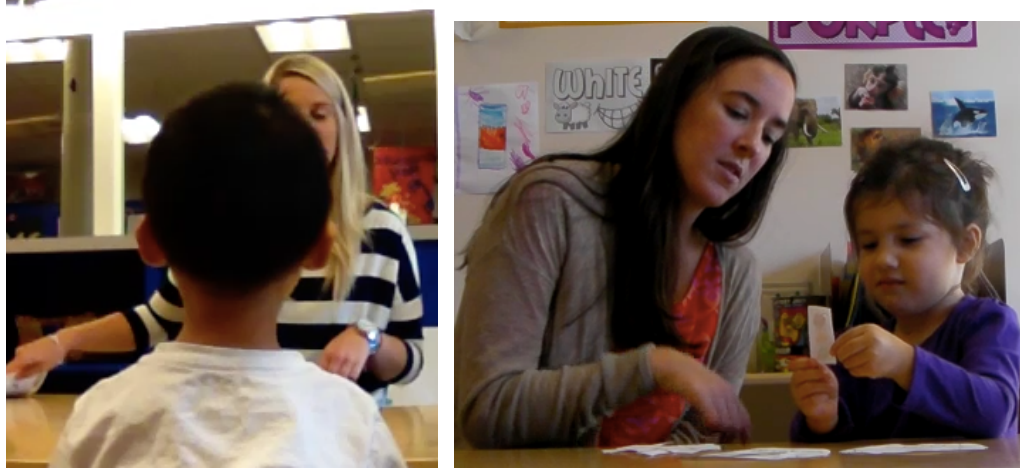
Figures 6-6a & b. Issues with camera placement.

The most daunting technical problems turned out to be running low on battery and/or

data. Some pre-service teachers had to change their equipment in the middle of the lesson

because the battery was running out or the data storage on the camera was full. Uploading video

clips to the computer and sending them to the instructor were also challenging for many of the

students. Some video recording formats were not compatible with their computer software,

especially when the pre-service teachers used an iPad or iPhone to take the video and tried to

play it on a Windows computer. Others struggled with video file sizes that were too big for them

to upload, send, or save. These technical problems impacted the reviewing and sharing of the

videos.

edTPA

Some of the students' feelings about the video assignment in Block 2 were connected to

their awareness that this was a sort of rehearsal for the video that would be part of their edTPA

portfolio. Pre-service teachers felt considerable pressure in anticipation of edTPA, the high

stakes assessment they knew they would have to pass when they reached their student teaching

semester in a year. One student wrote:

> This experience reminded me of discussions about the negative feelings students have
>
> because of high-stakes testing. I couldn't escape the lingering thought that this was
>
> practice for a much larger, much more important testing scenario. I am not usually prone
>
> to test anxiety, but the idea that people were going to analyze this video for an important
>
> grade shook my confidence in what I was doing.

Awareness that they were the first cohort of UGA students who would have to pass edTPA to get

their teacher certification added to their anxiety. As one pre-service teacher remarked:

> We're the first group; I think it's scary that it's used for our certification. Not being able
>
> to teach, based on the fifteen-minute video, for the rest of your life, you know what I
>
> mean? That's a big deal after you've been taking four years of school.

> The pre-service teachers were especially bothered by the idea that their edTPA video

would be evaluated by someone who was unfamiliar with them and their instructional context.

In one group interview, pre-service teachers had a fiery discussion about how what they

perceived as the lack of context in the edTPA assessment went against the principles they were

learning in the program:

> They know nothing about our classroom culture—what they've been showing us this
>
> whole time we've been in program. They know nothing about the culture in the
>
> classroom, the culture of this city, even the culture of this state… I will be a great teacher
>
> one day because I'm going to implement the things that I've learned here. edTPA isn't
>
> going to be able to see what we've learned here because we're not able to put that in
>
> our videos.

The focus of their concerns was on whether a 15-minute video could present enough information for the edTPA evaluators to make a reasoned judgment of their teaching. The video camera cannot capture everything that happens in the classroom, and a 15-minute video can easily be misunderstood without knowing what transpired before and after the recording.

Anticipating the edTPA assessment impacted some of the pre-service teachers' decisions about what kinds of lessons to teach, how to teach them, and how to choose which students should be included in the video. The pre-service teachers talked about strategies they could use to get a good edTPA score, such as teaching an easy-to-grasp concept and practicing their lesson several times with students before making their "real" video or choosing a select group of students who are easier to work with. As one pre-service teacher said in the interview:

> I think that, for sure, when I'm making my lesson plan for edTPA, different things, like—and I'm going to take into consideration, like, "Okay, what is going to come across better on the video? What's going to be easiest, to just to do a 15-minute segment just to get it done?"

And:

> You could see people pulling out a bad kid from the class, just for that fifteen minutes of filming, because that one child is going to act up regardless, so they just don't have him in the class. I mean, there's a lot you can edit behind the camera that people watching the film can't see.

Some pre-service teachers even chose the quiet and better-behaved students to take part in the video activity: "The two boys in my group get distracted easily, so I knew I did not want them in my group." This pre-service teacher was not the only one who talked about choosing "good" students to be included in the videos.

190

These strategies run counter to ideal notions of what it means to be a teacher. The teacher's job is to teach "difficult" as well as "easy" students. Distractions also are typical—good teaching is not about lessons always going smoothly, but about how teachers deal with challenges. To pass the test, pre-service teachers try to reduce challenges in the lessons they use for their edTPA videos. They may teach in a more teacher-centered or "teacherly" way than they would otherwise and perform an inauthentic version of their usual teaching style/personality:

> There's so many things that have to go with actually videotaping it for edTPA that it's almost like you're putting on a front of a teacher that you're really not. They're not even getting to see the real you. They're evaluating something that you're doing for them, not because that's really who you are.

It should be said that the pre-service students' ideas about what the edTPA evaluators would be looking for might not be correct. For example, their strategies of teaching a simple lesson, reducing the variety of students, and being more performative might be counter-productive. In reality the edTPA evaluators may be more thoughtful and insightful than the Block 2 pre-service teachers anticipate, but it is their imagination about edTPA rather than the reality of edTPA that begins distorting their practice already even a year away from being assessed. Although many teachers expressed that the video assignment for the teaching methods class was really helpful for developing their professional skills, the pressure of the looming edTPA assessment may push them even a year out to focus too much on getting good test scores, which can be a distraction from improving their teaching skills.

Different Responses to the Videos

The pre-service teachers and the instructors and supervisors who worked with them tended to notice and emphasize different points in the videos. For example, in the group

interview, one supervisor expressed her concern about what pre-service teachers fail to see in their videos:

> They just focus on their voice or face or volume of their voice or tone of voice or eye engagement, but except that part, they were not intentionally paying attention to their body strategy. I mean, on intention or unconscious body strategy, as they had not been aware of that. I mean, in their reflection or when we talked about our individual meetings—but some of them had awareness about it there. It's the explicit parts of embodied practice. Some good teachers have some different kinds of body strategies.

In this same group interview, one university supervisor talked about the importance of positioning in reading activities:

> Like, my students used to read to kids sitting around a long table like this and she couldn't have their attention because it's too far for her to reach the kids sitting at the other end. I was telling her, "If you are thinking about doing a reading activity, it's better for you to sit in the corner or just sit around a table, or not at a table but in a circle so you can reach out.

As this supervisor suggested, sometimes pre-service teachers appeared to miss the importance of key points about what worked better and less well in their lessons. As discussed in the chapter 4, this could be because pre-service teachers tend to rely mostly on one or two "go-to" bodily techniques, which leads them to miss the opportunity to work on developing other strategies.

Joseph Tobin, the instructor of the teaching methods course these students were enrolled in, gave them a rubric of bodily techniques (gaze, touch, gesture, posture, position, voice) to help them think about their embodied teaching; however, even with this rubric they overlooked many of the embodied aspects of their teaching that their instructor saw in their videos.

In the written feedback Tobin gave them on their midterm videos, he mentioned their use of touch 17 times. He praised some of the pre-service teachers for their effective use of touch as a pedagogical strategy:

You use various bodily techniques effectively in this lesson. You used eye contact well, and touch to focus attention, and gestures to demonstrate points. Touch is important for preschoolers (and not only preschoolers). You can use touch to communicate various messages to them.

He also encouraged the students to use more touch during their teaching. This feedback from the instructor is a probable contributor to the student teachers' increased use of touch in their final videos and discussion of touch in their video reflections. As shown in Table 6-1 (pp. 172-173), the use of touch in their videos increased from 7 to 11 videos, and the reflections on touch from 5 to 10 reflection papers.

The instructor praised them both for bodily techniques that they noticed they used and for techniques they used but did not notice or comment on:

I particularly like all the things you noticed about your embodied teaching techniques. I agree that you use gaze and gesture very effectively. That's an interesting point about being careful not to smile at right answers and frown at wrong ones. I also like your posture in the second video, as you lean forward to make stronger connections with the children and shift your body from child to child. You also use your eyes well, specifically your eyebrows, which you raise to show attention and that you have heard what they say.

Instructor Approaches to Using Videos

For pre-service teachers to get the most benefit from the video taping assignment their instructors must scaffold their learning. What is the best way to use videos that pre-service

teachers make of their teaching in a teaching methods course? As do high-level athletes and dancers, teachers—both pre-service and in-service—can use video as a tool not just for reflection but also for video-cued practice. For example, the pre-service teacher and her instructor could watch videos of her teaching together, identify examples of effective and ineffective use of bodily techniques, and then practice the effective techniques. This was the method used by one of the Block 2 instructors, Robert Capuozzo. Another instructor, Joseph Tobin, asked some pre-service teachers to share their videos with the whole class, talked about embodied practice in relation to each video, and encouraged classmates to offer their feedback.

Considering the intercorporeal, spatial, and material aspects of embodied teaching, video-cued practicing would probably be most effective if done in the context of role-playing a preschool classroom. Other students in the methods class could play the roles of well-behaved and disruptive students. In this study, pre-service teachers did some role-playing of their lessons before both their midterm and final videotaping, and several of them discussed the value of role-playing for revising their lesson plans and practicing their embodied teaching techniques. Some participants said that the suggestions classmates gave them during role-play and from reviewing the video together were very beneficial. One pre-service teacher said in an interview:

I think that was my favorite part about the assignment, was that, realistically, I can't get twenty-two of my classmates to come watch me teach, because it's just unrealistic, but, like, this video assignment helped us to get that feedback from our peers, because that's like, valuable to me because we're all on the same page. It's not like, you're going to be talking down to me, because you've been a teacher for twenty years; it's "Hey, I think you're good, possibly improve this, I did this last week, and this really helped"—it's just like, friendlier advice, so I really liked getting feedback on it from my peers.

194

The videotaping assignment was a useful tool for facilitating communication between pre-service teachers and their instructors. Supervisors and pre-service teachers might ordinarily miss some of the details that can be captured on video, but when a lesson is recorded, they can sit down together to review the video and discuss some issues about the lesson. Also the pre-service teachers can explain the context and share their thoughts about the lesson and their students with their supervisors, which can facilitate the process of rethinking the meaning of their lesson.

The pre-service teachers, as mentioned above, had concerns about the edTPA assessment that awaited them, and yet many expressed gratitude that they had the chance in their second-semester class to develop skills that prepared them for edTPA. As one wrote:

> These two videos have helped me prepare a lot for our big 20-minute video that we have to submit at the end of our student teaching. The videos also made me realize things I need to improve on and made me realize areas that I'm really good at. I cannot wait for student teaching, where I will become more comfortable teaching and video myself to see the improvements from now and then.

The video requirement of edTPA places more pressure on pre-service teachers and may make them suffer more from the anxiety of self-confrontation and the expectations of teacherly performance.

All this being said, we still have to acknowledge the positive outcomes that videos can bring to teacher education. Videos make pre-service teachers' embodied practice more visible. Videos are not only a tool for documenting one's classroom practices, but also a mechanism for reflecting on one's own and others' teaching practice. From reviewing the comments of all participants, it is clear that not only pre-service teachers, but also supervisors and instructors

195

have been feeling pressured by the video requirement of edTPA. However, they also see the

advantages and possibilities the videos bring to their learning and future careers. Keeping the

above considerations in mind, teacher educators need to make a serious effort to take account of

both the challenges and the productive applications of video-recording as a dynamic pedagogical

tool in teacher preparation—not only so as to satisfy mandatory certification procedures, but

more importantly, to explore a promising avenue for shaping the future of teacher education.

CHAPTER 7

EPILOGUE

In this study I have explored how pre-service teachers' development is affected by recording and reviewing videos of their own teaching, as well as how video can function as a tool for evaluation and scaffolding and how this is playing out in the context of edTPA (Teacher Performance Assessment). Theories of embodiment have guided this study, providing theoretical support for analyzing pre-service teachers' bodily techniques and understanding the processes that help improve their embodied pedagogical skills.

In Chapter 1, I introduced the background of this research problem and the theoretical framework that I used to analyze and interpret the data. Chapter 2 reviewed a range of literature on how videos have been and are being used in teacher education, as well as on teaching as embodied practice. Chapter 3 introduced the research design and methodology and highlighted the central role of videos in this study. Chapter 4 defined and categorized intern teachers' bodily techniques and presented evidence of how pre-service teachers use their bodies in their teaching, as well as how the class requirement to reflect on bodily techniques facilitated changes in their classroom practice and their understanding of themselves as teachers. In Chapter 5, Latour's Actor Network Theory was used to frame a discussion about how the classroom teaching materials influence pre-service teachers' practices, students' behaviors, and the interaction between them. The findings presented in Chapters 6 explored the impacts on pre-service teachers, both positive and negative, of adding a video portfolio assignment to an early childhood education teacher preparation course.

Summary of The Study

Bodily techniques are undoubtedly an important tool for teaching and communicating with students. They are closely linked to personality, and are often so habitual and spontaneous as to seem almost immutable. Nevertheless, a major finding of this study is that paying attention to embodied practice can make a meaningful difference in the development of teacher's professional skills. In this study, I defined and categorized pre-service teachers' bodily techniques (hands gestures, touch, body gestures/posture, facial expression, voice, gaze and eye contact, and positioning), described the primary ways in which pre-service teachers' used their bodies in their initial field experience, and analyzed the ways in which they reflected on these techniques and how recording, viewing, and reflecting on videos worked to change their classroom practice over the course of a semester.

I presented some simple descriptive statistics to show pre-service teachers' preferential uses of certain bodily techniques (gestures, posture, facial expression, voice, and gaze) over others (touch and positioning). I suggested that a reason for this difference is that pre-service teachers have difficulty seeing themselves in context and seeing their teaching as relational. I also drew on Kounin's (1970) terms "withitness" and "overlapping" to discuss "teacher presence" and alertness, which are important but often overlooked and under-analyzed aspects of a teacher's embodied practice. Many pre-service teachers struggle to take advantage of bodily techniques to distribute their attention across a group of students and to multitask. However, by watching and reflecting on their videos, they developed an awareness of this problem and considered solutions. My data analysis also showed that the pre-service teachers often had difficultly balancing their use of embodied as well as verbal classroom management strategies, as they tended to rely on one or two "go-to strategies."

Use of materials is another important category in relation to teachers' bodily techniques. Materials, as nonhuman actants, exert a tremendous influence on pre-service teachers' lessons. Many of the lessons the pre-service teachers videotaped and reflected on were undermined by difficulties they ran into with the materials they employed in the classroom. The uncertain and unpredictable characteristics of preschool classrooms require the pre-service teacher to develop the ability to make quick decisions, allocating attention to multiple children and tasks, and adjusting quickly to the changing circumstances.

As technology advances, video is being used increasingly in teacher education programs. On the positive side, videotaping is a powerful tool for bringing attention to the often-overlooked embodied dimensions of teaching. Video also provides a mechanism for pre-service teachers to reflect on their teaching practice. Viewing videos of their teaching makes pre-service teachers more cognizant not only of their use of bodily techniques, but also of non-embodied aspects of teaching (e.g., pedagogical decisions, teaching pace, etc.). On the negative side, requiring pre-service teachers to videotape their own teaching can contribute to a tendency towards producing teacher-centered, overly performative and "teacherly" lessons—and can produce anxiety by holding a mirror up to college-age students—in my study, all of whom were women—who may be uncomfortable with their bodies. That having been said, apart from the statements by some pre-service teachers that at first, they were embarrassed at viewing their videos and showing them to others, I found little evidence that this cohort found the overall experience distressing. This research also addressed implications for how initial teacher preparation programs can most effectively implement the videotaping requirements of the Teacher Performance Assessment (edTPA) now mandated in many states.

What role can video play in shaping and changing a pre-service teachers' development? Firstly, a pre-service teacher begins with an already existing habitus—mainly, her general, personal habitus that reflects her personality, mannerisms, etc. As she begins her field experience, she has not yet developed her habitus as a teacher, and the habitus that she implements in the classroom is unfamiliar, unstable, and even fake—that is, it is just an act, or a performance of what she imagines her teaching persona should be. At this stage, her habitus is easily changed, since it has not been solidified by multiple years of reinforcement.

When a pre-service teacher views a video of her own teaching, she is confronted with her teaching persona in its earliest stages—with all of its imperfections and in the midst of ongoing trial and error. This confrontation can be a catalyst for her to interrupt and reconstruct her habitus, piece by piece, through ongoing experimentation in the classroom and continued video reflection. In this process, when a pre-service teacher meets with challenges, she may respond by intentionally making use of learned (or intuitive) bodily techniques, which will gradually revise her habitus as a teacher. Moreover, as she observes other teachers through video (or in person), she is exposed to other factors, other possibilities, and new ideas or solutions to incorporate into her own practice.

In this process of development, the field experience component of a teacher preparation program functions as a field of action, which must be crafted as a safe space for pre-service teachers to experiment and reflect on their teaching habitus as it emerges and solidifies. This earliest stage in their development as teachers is of tremendous importance, as the time they are given to craft and consolidate their habitus as teachers will have an orienting influence as their identities become more fully developed in their first several years of teaching. After this point, changing one's identity or habitus becomes a greater struggle, and so this underscores the great

responsibility of the teacher preparation program to create an environment that fosters development that is reflective rather than accidental or arbitrary—and that is based on sound pedagogical research. For the pre-service teachers in this study, the videos functioned to make their field experiences more sharply focused and to create a field of action that was shared among them, their classmates, and their instructors.

Larger Implications

The goal of this study was to bring the voices of pre-service teachers, their instructors, and university supervisors to bear in exploring the impacts of videos and bodily techniques on teachers' professional development. These voices must be given a hearing in the current context in which edTPA is spreading to many teacher preparation programs across the nation. This study has implications not only for understanding pre-service teachers' professional development, but also for how initial teacher preparation programs can most effectively implement the videotaping requirement of edTPA.

Mind/body Dualism

Teaching is an activity that combines the use of the teacher's mind and body; but we should avoid falling into a dichotomous mind/body dualism. In other words, we should avoid binary thinking about teaching as an activity in which teachers alternate between using their minds and their bodies and instead see teaching as an activity in which both mind and body are integrated. Paying more attention to embodied practice does not mean overlooking the importance of the planned and the verbal aspects of teaching. The question is, how do we balance our attention across both the conscious/verbal/planned and the embodied/implicit/ spontaneous dimensions of teaching practice? A teacher's words and bodily techniques may be used in concert with one another. As two pre-service teachers' reflected: "Watching the video

with and without sound also added a new level of reflection," and "Turning the sound on obviously adds another layer to what all is taking place." Devoting more attention to the bodily techniques of teaching need not take away from tried-and-true teaching practices; rather, it can provide pre-service teachers with additional, indispensible tools to employ in their teaching.

The use of videos provides pre-service teacher with one more method to reflect on their practice and to illuminate practices that may otherwise be lost in the hustle and bustle of the classroom. When pre-service teachers become aware of their uses of bodily techniques, they become more intentional and conscious in their teaching. As one pre-service teacher wrote: "I also tried to keep eye contact with them while reading the text, pausing here and there looking at them to see where their attention was. Watching to see whether or not it was on me or on something else." Another pre-service teacher said in a focus-group interview: "One thing that I remember we talked a lot about was getting on the student's level. That was something that I thought about a lot and make sure to do a lot more." Video helps pre-service teachers to more effectively use eye contact, gestures, and positioning when reading to children. With video-cued reflection, bodily techniques can be learned, practiced, and improved. Conscious of how they use their bodies, pre-service teachers can plan embodied teaching techniques in advance of teaching the lesson.

On the other hand, the need to employ "non-embodied" teaching practices often arises so quickly and unpredictably that such decisions cannot be planned in advance. In Chapter 6, I discussed how pre-service teachers tend to rush during their teaching. A challenge for them is how to make in-the-moment decisions such as whom to call on next, when to give more explanation, or when to shift to the next topic. Pre-service teachers must learn to modify their lesson plans according to how students respond. As one pre-service teacher reflected:

A modification that I made was asking one of the girls to count out fewer dinosaurs than I had originally planned. I did not plan on making this modification but when one of the girls told me she couldn't count out 6 dinosaurs because "that's too many," I asked her to count out less dinosaurs and then both I and the other child helped her count them out.

Teachers need to make split-second modifications to their lessons. But sometimes decisions transpire so quickly that the pre-service teachers don't even realize they have happened. Videos provide pre-service teachers with the chance to slow down or even freeze action as they consider embodied and non-embodied strategies they could have employed. Pre-service teachers can consciously reflect on how to use their bodies as powerful pedagogical tools, and at the same time, cultivate the ability to deal with the unplanned.

Videos as Tools for Creating a Field for Symbolic Interaction

The pre-service teachers in this study practiced their teaching in different classrooms and schools, but they took the same teaching methods class. Every week in this class, they discussed the issues they met with in their pre-school classrooms and the concerns they had about their teaching and their students. Their videos played a key role in mediating their interactions and scaffolding their collaborative growth as teachers. In Bourdieu's terms, the videos helped to create a "field" where their embodied practices came into virtual contact. As Bourdieu (2000) wrote:

An agent can be affected by something very distant, even absent. The Body is linked to a place by a direct relationship of contact, which is just one way among others of relating to the world. . .The field is the space of a game where thoughts and actions can be affected and modified without any physical contact or even any symbolic interaction, in particular in and through the relationship of comprehension. (p. 135)

Two pre-service teachers, working in different field placements and with different mentor teachers and students, often encountered the same issues and had similar concerns, and therefore had empathy for each other's situations. As new teachers learning in the same program, they were able to share similar feelings. Watching and reflecting on not just their own but also each other's videos created a field in which these pre-service teachers could engage in symbolic interaction. As a pre-service teacher said in group interview:

> I think that was my favorite part about the assignment, was that, like, obviously, realistically, this video assignment helped us to get that feedback from our peers, because that's like, valuable to me because we're all on the same page, like it's not like, you're going to be talking down to me, because you've been a teacher for twenty years, it's "Hey, I think you're good. You could possibly improve this, I did this last week, and this really helped." It's just like, friendlier advice, so I really liked getting feedback on it from my peers.

Another said similarly:

> I like to see anybody do their stuff. You can see like, you know, how they teach. Something like that. Like in Susan's video, she was moving around the room. And I have never thought to do that. It's also good to like, watch other videos in that class, like—like going back and watching your classmates, you can get, like, ideas on how to have that embodied teaching from your classmates' videos.

Two pre-service teachers working in different classrooms often met with the same problems or dilemmas. Even pre-service teachers who had no physical contact with one another in their field placements could, in some way, empathize with each other; they were both new teachers and

they were learning in the same program, so they might share similar feelings through this kind of symbolic interaction.

Cultural Factors

We need to be sensitive to cultural, racial, gendered, and social class differences in bodily techniques. As Mauss pointed out in his 1934 essay, techniques of the body are characteristic of genders, professions, classes, countries, and cultures. For example, in traditional Anglo-Saxon culture, avoiding eye contact usually portrays a lack of confidence or certainty, whereas in Japan and many other cultures, people often lower their eyes when speaking to a superior as a gesture of respect (Moran, 2007), and prolonged eye contact may be a sign of anger or aggression. Cultural factors in the use of the body came up in class discussions. For example, one Hispanic participant remarked, "As a Latina, I have very heavy gestures, so I was able to use my hands a lot to talk and teach the children." In a focus-group interview, she also talked about cultural influences on her bodily techniques: "For my teaching, I do cultural things. I am already, like—I move my hands a lot—my gesture… All my motions almost show on my face immediately." Her comments have implications for how her students, her classmates, and her instructors and field supervisors might react to and interpret her teaching.

The use of touch is another aspect of teaching young children that varies by gender, class, race, and culture. When I introduced touch as a classroom management strategy, some pre-service teachers in this cohort of mostly white, middle-class pre-service teachers were confused, as they carried the implicit belief that touching children was inappropriate. In a focus-group interview with supervisors, a Korean and a Chinese field supervisor were surprised by the pre-service teachers' hesitation to use touch:

SK: When I was a teacher, actually especially for young kids, touching is a very, very usual habit as a teacher but when I came here [to the U.S.], I just think about it, is it true, Asian teachers' body strategy? When I look back at my student video, yeah, it's a little weird. Even though they sit closely, my students, they didn't show much about the touching strategy and just gently called the boys' names if they got distracted. They didn't use many touching strategies. If a boy or a girl is so distracted, I hold him or her on my knee and just continue to teach with the group. But in this culture, in our students' videos, I cannot see that kind of moment.

CL: I feel like these teachers in our program are very disembodied because this idea of using your body—to pay attention to expert teachers, where they stand, how they use their hands, gestures, and gazes—has never been, like, strange to me when I was still a student teacher. . . Even as a student teacher, even in the planning process, if we are going to teach a lesson by our self, we spend a lot of time to think about, how are we going to arrange the classroom and what kind of material I have to prepare for kids because a lot of things are made by teachers themselves. We spend a lot of time to think about materials, bodies, and children.

The cohort I studied was relatively culturally homogeneous. Future studies using video to explore embodied teaching should give more attention to the implications of gender, class, race, and cultural variation.

Challenges and Future Research

Challenges

In this study, all the research participants, as well as the researcher, were in the same program, at the same university. This specific location is a context that undoubtedly shaped the

participants' and the researcher's experiences and ideas. The videos I have analyzed came from just 23 pre-service teachers, all enrolled in the same section of a teacher preparation course. These students were members of the first cohort in this program, who needed to pass edTPA to get their teacher certification. Therefore, at the time of my study the faculty members were still coming to grips with what edTPA participation would mean for the program and for their teaching.

Lasting effects of embodied pedagogy

The great majority of the students in this study wrote in their reflections and told me in interviews that watching and reflecting on videos of their own teaching has made them more aware of and better able to apply bodily techniques, and therefore has improved their teaching. However, it is important to keep in mind that their written reflections came from course assignments, and they were interviewed by someone they knew to be an instructor in their program—factors that may have led them to overstate the helpfulness of the video-recording and viewing process. I also have little evidence to suggest that the video assignments will lead to lasting change in their pedagogy as these young women move from being pre-service to in-service teachers. I found improvement in their use of bodily techniques between the midterm and end of their second semester in the program, but this is a small segment in time in view of their career-long professional development process. Future research should ideally have a longitudinal design, following students into student teaching and on into their first few years in the classroom, using videos at different stages to track continuity and change in their embodied practice.

Implications for Initial Teacher Preparation Programs

There is a growing body of anecdotal evidence and research to suggest that edTPA is problematic in many ways. However whatever edTPA's shortcomings may be, an implication of this study is that video can play a vital role in teacher preparation programs. Video should be incorporated throughout the programs, and not just introduced during student teaching as a graduation and certification requirement. Earlier in their program, as in their second semester in our program, pre-service teachers have more time and less pressure to reflect on their embodied practice than they do as they near their student teaching semester. As one of my informants said in a focus-group interview conducted in the middle of her third semester in the program,

> Now, in our classes we're so focused on getting ready for milestones, and like, it's just, right, this is a crazy semester, and being there two days a week in the class every day, every week, is just like a huge responsibility, and now we don't have time, I feel like, to worry about our embodied practices. That's not something we're like, super-prioritizing right now, so, I'm glad we did that last semester, because it is something to keep in mind.

I suggest that the video component should be incorporated into the pre-service teacher's development as early as possible, and at least by the second semester of the program. In this way, pre-service teachers can become familiar with the technology, comfortable in front of the camera, and more accustomed to viewing and reflecting on their own and classmates' videos.

This study shows that the videotaping assignment was a useful tool for facilitating communication between pre-service teachers and their instructors, which is a part of the process of rethinking the meaning of their lessons. Instructors need to scaffold pre-service teachers' learning from their videos. The lead instructor in the class I studied shared his feedback and comments on their videos in written reflections that he gave to the students on their midterm and

208

final portfolios. In another cohort, the instructor and the field supervisor sat down with students one-by-one to watch and discuss their videos.

The pre-service teachers in this study did some role-playing of their lessons before videotaping their midterm and final lessons, and several of them discussed the value of role-playing for revising their lesson plans and practicing their embodied teaching techniques. The suggestions coming from peers during role-play practice scenarios and from reviewing the videos together were very beneficial to pre-service teachers. More experience and more research is needed to help determine the most effective way for instructors to help students draw out the greatest benefit from the use of video.

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APPENDIX A

INTERVIEW PROTOCOLS—PRE-SERVICE TEACHERS

1. Watch video clips from their Block 2 videos.

2. What are the positive and negative effects of the videotape assignment of EDEC 4020 (teaching methods class)?

   1) When you think back to that video assignment, what do you remember?

   2) Was it a useful assignment for you?

   3) How did it feel to watch the video of yourself teaching?

   4) How about watching the videos of your classmates teaching?

   5) What did the videos capture and fail to capture?

   6) Did you run into any technical problems during your videotaping last term? Do you have any suggestions for how we can improve our technical support services?

   7) Did the requirement of videotaping your lesson change the kind of lesson you taught?

3. How the videos were used in EDEC 4020

   1) Was it useful to watch videos in class?

   2) Do you think it's useful to do practice teaching in class (role-playing of teaching)?

   3) Were the reflections from your instructors helpful?

   4) Did you benefit from feedback on your video from instructors or peers?

   5) Do you think review the video can instead the supervisor observe you?

4. How did the video change how you think about the importance of embodied aspects of teaching?

   1) Last semester, we talk a lot of embodied aspects of teaching. Tell me about your understanding of teaching as an embodied practice.

   2) Did this course assignment make you more aware of your bodily techniques?

   3) What similarities or differences did you see between your midterms and finals videos?

5. edTPA notions of teaching and teacher preparation, both positively and negatively?

   1) What do you think about edTPA?

   2) What do you think about the edTPA requirement that you videotape a lesson and discuss it?

6. Summary questions:

   1) What are the disadvantages of using video? Is there anything we might do to eliminate or reduce those disadvantages or problems?

   2) Do you have suggestions about how video should be used in our program?

APPENDIX B

INTERVIEW PROTOCOLS—SUPERVISORS

1. Watch 5 minutes of clips from videos made in Block 2.

2. What are the positive and negative effects of the videotape assignment of EDEC 4020 (teaching methods class)?

    1) Do you think the video taping assignment contributes to our students' progress as teachers? In which ways?

    2) What barriers or challenges have you encountered with the video assignment? How do you overcome these barriers?

    3) Do your students have any problems video-taping? How do you help them to deal with these problems?

3. How the videos were used in your EDEC4020?

    1) How did you use the videos in your EDEC4020 or EDEC4030 class?

    2) Did you watch student videos in class? Was this useful?

    3) Do you think watching the video of your students' teaching can instead of a part of supervision in their real classroom?

    4) What are the advantages and disadvantages of giving feedback on the videos vs. observing in real time and giving feedback?

    5) What do you see as the advantages and disadvantages of watching the video with the student vs. watching on your own and providing written feedback

4. How did the video change your thinking about the importance of embodied aspects of teaching?

   1) Tell me about your understanding of teaching as an embodied practice.

   2) Which kind of bodily techniques are important for teachers to focus on?

   3) What do the videos capture and fail to capture? With the audio off, do you find different points?

   4) How do pre-service teachers learn bodily teaching techniques? What benefits and drawbacks do you see in paying more attention to embodied practice of teaching?

   5) Is it effective to demonstrate and practice such embodied teaching techniques in class (e.g. using micro-teaching/role playing)?

   6) How should we balance giving feedback on the quality of lesson plans with feedback on their bodily techniques?

5. How is edTPA impacting notions of teaching and teacher preparation, both positively and negatively?

   1) What do you think about edTPA?

   2) What do you think more generally about using video for teacher preparation and assessment?

6. Summary questions:

   1) What is your overall opinion of video as a teaching and assessment tool?

   2) What are the disadvantages of using video? Is there anything we might do to mitigate those disadvantages or problems?

   3) What are your suggestions for using video in our teacher preparation programs?

INTERVIEW PROTOCOLS—INSTRUCTORS

1. Watch 5 minutes of clips from videos made in Block 2.

2. What are the positive and negative effects of the videotape assignment of EDEC 4020 (teaching methods class)?

   1) Do you think the video taping assignment contributes to our students' progress as teachers? In which ways?

   2) What barriers or challenges have you encountered with the video assignment? How do you overcome these barriers?

   3) Do your students have any problems video-taping? How do you help them to deal with these problems?

3. How the videos were used in your EDEC4020?

   1) How did you use the videos in your EDEC4020 class?

   2) Did you watch student videos in class? Was this useful?

   3) What are the advantages and disadvantages of giving feedback on the videos vs. observing in real time and giving feedback?

   4) What do you see as the advantages and disadvantages of watching the video with the student vs. watching on your own and providing written feedback

4. How did the video change your thinking about the importance of embodied aspects of teaching?

   1) Tell me about your understanding of teaching as an embodied practice.

2) Which kind of bodily techniques are important for teachers to focus on?

3) What do the videos capture and fail to capture? With the audio off, do you find different points?

4) How do pre-service teachers learn bodily teaching techniques? What benefits and drawbacks do you see in paying more attention to embodied practice of teaching?

5) Is it effective to demonstrate and practice such embodied teaching techniques in class (e.g. using micro-teaching/role playing)?

6) How should we balance giving feedback on the quality of lesson plans with feedback on their bodily techniques?

5. How is edTPA impacting notions of teaching and teacher preparation, both positively and negatively?

1) What do you think about edTPA?

2) What do you think more generally about using video for teacher preparation and assessment?

6. Summary questions:

1) What is your overall opinion of video as a teaching and assessment tool?

2) What are the disadvantages of using video? Is there anything we might do to mitigate those disadvantages or problems?

3) What are your suggestions for using video in our teacher preparation programs?