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LATINA PRESERVICE TEACHERS EMBODYING TEACHER
IDENTITY THROUGH IMPROVISATION

A Dissertation

by

ZULEMA WILLIAMS

Submitted in Partical Fulfillment of the
Requirements for the Degree of
DOCTOR OF EDUCATION

Major Subject: Curriculum and Instruction

The University of Texas Rio Grande Valley
August 2022

LATINA PRESERVICE TEACHERS EMBODYING
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August 2022

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ABSTRACT

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Latina preservice science teachers make the transition from science student to teacher is scant. This study aims to address this gap by exploring improvisation as a pedagogical tool in order for Latina preservice teachers make meaning of the transition from student to teacher and what this might mean in terms of identity.

According to Pool et al. (2011), “[u]sing arts-based instruction in a preservice teacher program has promise for fostering better pedagogical decisions to benefit learners at every level” (p. 9). The purpose of this case-study is not only to fill a gap in the literature but also to explore and improve teacher education practice, particularly my own practice. (Meyer, 2000, p. 8). In this way, my study is in part action research. According to Mills (2018) “Action research is largely about developing the professional disposition of teachers, that is, encouraging teachers to be continuous learners in their classrooms and in their practice” (p. 17). In this study, I become a continuous learner as well as the researcher.

DEDICATION

First and foremost, I would like to thank God for the wisdom, strength, and blessings that He provided for me during the years it took for me to complete my dissertation.

“I can do all things through Christ who strengthens me” (Philippians 4:13)

This dissertation is dedicated to the memory of both of my parents, Colonel Herbert M. Williams and Teresa M. Williams. Thank you both for your guidance, unconditional love and for always instilling discipline and devotion towards education. The completion of my Doctoral Degree would not have been possible without the support of my loving family. My husband, “Bobby” Robert Santa Ana Jr., my aunt who has always been like a second mother to me, Zulema Rojas, and to my aunt who is another mother figure, Dalila Garza. Thank you for always believing in me. Gracias por darme la fuerza para seguir adelante. Los amo.

I would also like to dedicate this dissertation to any daughters or sons serving as caregivers of those who are suffering from Alzheimer’s Disease. May God grant you the needed patience and love to continue to honor your parents.

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Gracias a mi abuelita materna, Dra. Consuelo Rojas por todo su amor, sabiduría y por inculcarme que no hay límites y por dejarme la mejor herencia; mi educación. Gracias querido tío Jorge Garza por todo el apoyo de siempre que nunca olvidaré.

I would like to thank my dissertation chair, Dr. Laura Jewett for pushing me to *write like the wind* and for taking the risk to write my first chapter in a book with me. Thank you to Dr. James Jupp for being part of my committee and for believing “que sí se puede”, to Dr. Angela Chapman for serving on my committee and for your passion in science, to Dr. Joe Norris for sharing your expertise and vision in arts-based learning with me. My sincere gratitude to the professors from the West wing at UTRGV; Dr. Bobbette Morgan, Dr. Irma Jones, Dr. Jim Telese, Dr. ’s René and Maria Elena Corbeil, as well as Dr. Luis Alcocer who always took time to ask about my mother’s health and for encouraging me to keep going. Thank you Dr. Reynaldo Ramirez for teaching me all about science. Thanks to my participants who took that leap of faith to take part in my research. Gracias a todos mis hermanos del alma del Centro de Educación de Televisa, El CEA, por estar a mi lado siempre. To Baileys, Bomb-Bon, Zeus, Foxy, Princesa, Kitties, Chico, Xzena and Pumba, thank you for always cuddling by my side when times got tough. To all my students, thank you for inspiring me to keep learning. Gracias, gracias, gracias.

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CHAPTER I

INTRODUCTION

The researcher is a native born Texan who indulged in living in Mexico City for part of her life where she embraced two cultures. While living there, she became part of the elite aspiring actresses to work in the acting industry in soap operas, theatre, and radio dubbing. This lived experience allowed for her to embrace and embody acting as a way of being, knowing, and becoming. She then became a public school teacher and since then, has dedicated her life to students from the young to adults. These two unique backgrounds have given way to a different perspective in acquiring knowledge.

Just as a kaleidoscope that has various colorful sides to be looked upon, I too have had different shapes and colors to my becoming. From a vivacious background of acting in different kinds of platforms to that of the complexity of finding my own identity. I too have been taken through a path of antagonist and protagonist roles in teacher education. Yet, the beauty of becoming has given way to the opportunities that life has given me in order to acquire the needed knowledge thanks to the lived experiences. As a researcher, I only intend to give others the opportunity to embrace arts-based pedagogy as a mode of

learning to that of transitioning from science students to science teachers. Ceasing the moment and understanding complexity is a virtue.

This dissertation explores the process of engaging preservice teachers in arts-based pedagogies of improvisation aimed at supporting Latina preservice teachers' transition from science students to science teachers. Chapter one focuses on the background of the study, statement of the problem, purpose of the study, research questions, as well as definitions and terms.

Background of the Study

Teacher identity has been the central focal point framing the transition from student to teacher. In addition, teacher identity is important to our own understanding of teaching. What is significant is when it is mentioned that there is a struggle comprehending connections amongst identity and the self, the role of emotion in shaping identity. Luehmann (2007) describes identity in various ways: identity as socially constituted in interaction with others; identity as dynamic being formed and reformed through the process of change; identity as multifarious, consisting of ways we are recognized socially; and narrative identity whereby identity is constituted by stories will tell ourselves in conjunction with stories others tell about us. Beijaard, Meijer and Verloop (2004) describe identity as "an ongoing process, and therefore that identity is dynamic rather than stable, a constantly evolving phenomenon" (p.177). These authors recognize that identity and self-go hand in hand and there is not a clear distinction between personal and professional identity. Literature on teacher identity resonates to Friesen and Besley (2009) when claiming that "[s]tudents rely on life-course experiences that inform their early teacher identity." (p. 31). This

can point to the centrality of the transition from students to teachers. Literature on Latina teacher education such as Andreasen et al. (2019); Clark, (2009); and Nicholas et al. (2016), also point to identity development as key. However, literature on ways in which teacher education might better help Latina preservice science teachers make the transition from science student to teacher is scant. This study aims to address this gap by exploring improvisation as a pedagogical tool in order for Latina preservice teachers make meaning of the transition from student to teacher and what this might mean in terms of identity.

According to Pool et al. (2011), “[u]sing arts-based instruction in a preservice teacher program has promise for fostering better pedagogical decisions to benefit learners at every level” (p. 9). Since my study is not only just to fill a gap in the literature but also to explore and improve teacher education practice, particularly my own practice (Meyer, 2000, p. 8). In this way, my study is in part action research. According to Mills (2018) “Action research is largely about developing the professional disposition of teachers, that is, encouraging teachers to be continuous learners in their classrooms and in their practice” (p. 17). In this study, I become a continuous learner as well as the researcher.

Purpose of the Study

The purpose of this study is to explore improvisation as a pedagogical tool aimed at helping Latina preservice teachers make meaning of the transition from science students to science teachers and what it might mean in terms of identity and also to improve my own practice as a preservice teacher.

Research Question

This study answers Pool's (2010) call for integrating arts-based approaches in teacher education and situates this call more specifically in relation to issues of Latina preservice teacher identity. The following question draws from this literature in order to focus on broader questions of teacher education and identity more specifically on Latina preservice teacher identity within the context of a science-methods course.

How do preservice teachers at a large HSI wrestle with issues of identity through theatre-based lessons aimed at imaginative engagement with their current and future identities as teachers and learners? Further, in what ways do Latina preservice teachers embody the transition between a science student to a science teacher when engaged in arts-based improvisations?

In response to the research question, this study is lending insight into the problem already and in order to pursue this research question I did this kind of study. This study's setting is a methods course in a teacher preparation program at a Hispanic Serving Institution, Los Dos Laredos (pseudonym), located in a metro-area called TexiMexi along the Mexican/American border in deep South Texas. In this study, I refer to this institution as my research site where preservice teachers enrolled in the educational courses are undergraduates. This course focused on the instructional planning, management and assessment methods for effective teaching that integrates educational technology and field-based experiences. One criteria for this qualitative study was that preservice teachers be enrolled in a 15 week teacher education course.

Other criteria was that the preservice teacher be Latina. I selected 5 students which criteria were based upon being a Latina who were willing to participate in my study. The purpose for focusing on Latinas is due to them being underrepresented in teacher education and in teacher education literature. Irizarry and Donaldson (2012) write "Latinas/os from all backgrounds are

underrepresented in teaching.” (p. 160). Data was collected through interviews and participant observation which data sources included field notes, Zoom interview recordings and transcripts as well as researcher journal entries. I gathered data by observing improvisational activities of my own students in an elementary 15 week methods course. All students from the course were required to participate in these activities since it was a regular requirement of this course and only those students who had a signed informed consent were counted as participants in this study. There were three improvisational activities; *Letter- to- Self*, *Pulling Pulls Through Zoom*, and the *Fourth Wall*, that took place and recorded in Zoom breakout rooms at the beginning, during, and end of the semester. I observed the preservice teacher’s improvisational experiences as they interpreted key concepts in science topics that led to performances. I met with 5 participants in three rounds of interviews using Zoom. Zoom was then used for my study due to the uncertainty of face-to-face interviewing during unpredictable COVID restrictions. These interviews, were then conducted at the beginning, middle, and end of the semester, and were aimed at exploring preservice teachers’ experiences engaging in improvisation and uncovering any connections to students’ emerging identity as preservice teachers. As applied to my study, performativity of improvisation allowed my students and me as their instructor to engage in and embody questions of “what would I do” jointly as a key process of identity development linking current identity resources to future practice. Anderson (2004) describes how the students can learn from role playing as well as through improvisation. He mentions how, “[d]ramas do not sharply distinguish between actor and audience; the learner is both participant and observer, playing a role while interacting with others in role.” (p.282). Towards these ends, preservice teachers also experienced change through improvisations and made meaning of their improvisations and science.

Definitions of Terminology

To better understand some of the terms used in my study, I am providing the the following terms and definitions which are further discussed in chapter 2.

Identity- According to Luehmann (2007) identity is socially constituted which is by self, due to the interaction with others, identity is constantly being formed and reformed through the process of change, identity is considered to be multifarious consisting of ways one is recognized socially, and finally identity is also defined as constituted in narrations of experiences (p. 827).

Improvisation- According to Bentley (2000) “[i]mprovisational drama is a strategy that science teacher educators can use to create a non-threatening climate which allows a range of ideas to make it to the classroom forum.” (p. 64). This technique raises awareness to accept a different style of learning to not only acquire knowledge, but also to help with critical thinking skills. Improvisation has to do with attentional focus where the individual, who is at the center of the activity, becomes the author of their own circumstances (Swiboda, 2018, p. 46).

Preservice Teacher- Brooks (2016) defines this term as a teacher who is being prepared as an undergraduate and understood to be an ‘insider’ whitening the disciplinary way of thinking while sharing the understanding of what the discipline stands for and its distinctive contribution to human knowledge (p. 35).

Teacher Identity- According to Brooks (2016) this is when a teacher adopts an identity that requires the development of personal theories of action while exploring aspects of their personal identity along with imagination (p. 128).

Points of Departure

This first chapter has set an expectation of what my study will be about. It has provided some explanatory information with sense of clarity in relation to the background of the study, purpose of the study, the research questions, as well as important definitions that relate to the study. The background of the study emphasizes on how to integrate and determine innovative ways in which teacher identity can be identified through an arts-based pedagogical approach. The purpose of the study follows by explaining why I implore on action research through an arts-based approach using improvisations with my upcoming preservice teachers. I proceed to explain why there is a need for my study to be conducted since we must find innovative and creative ways to relate to science concepts with their own teacher identity through an arts-based practice. In order to attempt to meet the purpose of my study, I address my research questions. Lastly, there are definitions provided in order for the reader to have a better understanding of the terminology that is presented throughout my study. The following chapter two will provide a literature review that includes scholarly context for the study.

CHAPTER II

REVIEW OF LITERATURE

This chapter defines the literature about teacher identity into four major sections which is Preservice Teacher Identity, Science Teacher Identity, Latina Science Teacher Identity, and Arts-Based Approaches to Teacher Identity. In this section, the focus is to build on this literature base advance understanding of identity, and it is clear that the literature says that there is an identity construction that connects to novice teachers' own learning goals (Horn et al., 2008). In the second section, there is a focus on constructing science teacher identity in teacher preparation programs in order to connect and have confidence in teaching science (Chen & Mensah, 2008). In the third section it includes ideas written by Irizzary and Donaldson (2012) and they say that Latinas from all backgrounds are underrepresented in teaching as well it being imperative that the perspectives of Latinas be leveraged to transform policy and pedagogy in order to meet the needs of the Latino youth. The significance of that of my study is that Latinas make meaning to transitioning from a student to a science teacher when embodying improvisations. In the fourth section, that I describe is arts-based approaches to teacher identity where Norris (2020) describes the creation of scenarios on topics, how mutual work can be examined, while understanding that there is an intention to be performing for others who happen to be external to the process. I used this to help establish the significance of my findings regarding one of the improvisational activities, *Fourth Wall*, in order to build on his intentions described. This section really helped

establish the significance in terms of practice in identity, Latina science identity, and arts-based approaches to teacher identity.

This literature on improvisation or in arts-based research not only helped shape my literature but also helped inform on the actual activities that I used from Joe Norris. It not only informed me theoretically, but I used it to help sculpt what needs to happen in class. This literature also helped me find the research question while there was a lot of literature on identity, there wasn't any literature on Latina Science teacher identity. I put this literature together and this research question comes from that literature, and it contributes to it in order to explore the question. Chapter three talks about how the process and methodological details about how I actually pursued this question. This study is designed to build on this literature base advance understanding of Latina, preservice science teacher identity and the ways in which dramatic role play activities enhanced by improvisation might play a useful role in the development from student to science teacher. This study's setting is a methods course in a teacher preparation program at a Hispanic Serving Institution, Los Dos Laredos (pseudonym), located in a metro-area called TexiMexi along the Mexican/American border in deep South Texas. The participants in my study were undergraduate preservice teachers who are part of an education program who were enrolled in a 15 week teacher education course. There were three improvisational activities; *Letter-to-Self*, *Pulling Pulls Through Zoom*, and the *Fourth Wall*, that took place and recorded in Zoom breakout rooms at the beginning, during, and end of the semester. I observed the preservice teacher's improvisational experiences as they interpreted key concepts in science topics that led to performances where I paid special attention to ways students internalized science specific content, experimenting, and imagining pedagogy and embodying possible identities. Towards these ends, the following begins with a broad exploration of literature, moves

to literature specifically examining the four sections mentioned and concludes with a point of departure.

Preservice Teacher Identity

This section discusses definitions of preservice teacher identity and the ways in which these might inform my study.

Literature on teacher identity defines identity in multiple ways. Olsen (2008) states that “[i]dentity is understood in terms of broad cultural strata such as race, class, gender, religious beliefs, sexual orientation, nationality, ethnicity, language, and physical ability.” (p. 4). He then proceeds with the definition of teacher identity as, “[a] useful research frame because it treats teachers as whole persons in and across social contexts who continually reconstruct their views of themselves in relation to others, workplace characteristics, professional purposes, and cultures of teaching (Olsen, 2008, p. 5). On the other hand, Gee (2000) offers 4 aspects of identity that make up the self: nature-identity, institution identity, discourse-identity, and affinity identity. The term “nature identity” refers a notion of natural (as opposed to social) self or the perception of “I am”. However, this notion of natural self is also in some ways social. Gee (2000) explains: “[n]atural identities can only become identities because they are recognized by myself in others, as meaningful in the sense that they constitute (at least in part) the ‘kind of person’ I am.” (p. 102). The term “institution identity” refers to the position that one occupies in society. The third, which is discourse-identity, points to the discursive production of identity in tandem with others through language. Gee (2000) sees “affinity groups” as central to identity development. According to Gee (2000) “Affinity groups are those people who may be dispersed across space, such as a given country, yet, who may share little besides their interests,” but shape identity (p. 105). Gee’s (2000) central notion that identity is multiple and socially

constructed, informs my study's overall approach to identity, allows me to think about the classroom as an affinity group, and offers a framework for analysis I can use to consider specific aspects of identity development as they emerge in classroom performances and interviews.

According to Beauchamp and Thomas (2009), "[s]tudent teachers must undergo a shift in identity as they move through programs teacher education and assume positions as teachers in today's challenging school contexts." (p. 175). They further argue how there are shifts that might occur throughout a teacher's career due to interactions within schools as well as interactions within their communities. Like Gee (2000), Robinson, Anning, and Frost (2005) see identity as socially constructing as shifting. As they see it, identity of a teacher at a professional level can actually be reconstructed by the influence of their peers and team members. They draw on Wenger's (1998) model in which identity is one of the four concepts that pertains to professional learning which in time creates the personal histories of each individual. The model involves the understanding that knowledge is then created and practice, professional identity is enhanced, and building communities is important. As Roison et al. (2005) explain, this model is significant as it lays the ground-work for communities of practice:

Wenger argues that knowledge creation and learning take place in a community of practice through complimentary processes of participation (the daily, situated interactions and shared experiences of members of the community working towards common goals) and reification (the explication of versions of knowledge into representations such as documentation or artefacts. (p. 176).

Lew (2016) also discusses professional identity, in terms of science teacher identity more specifically, in the Boundary Between Fields Model (BBF). According to Lew (2016) this model describes what Lew (2016) describes as boundaries between subjects and professional identity in

terms of contextual factors, support given through professional development and personal resources including any given expertise, teacher knowledge, and or dispositions. This model is significant to my study since Lew (2016) helps to exemplify that “[i]t is used to understand the participating science teachers’ boundary crossing.” (p. 36). This helps my study in order to think about preservice teaching as a boundary crossing space in which socially-constructed identities are formed and re-formed.

Mockler (2011) discusses professional identity the appreciation to what it is to be a teacher (p. 517). Likewise Noonan (2018) asserts that “An identity lens is promising given its attention to individual learners, including their past experiences and guiding beliefs and how they use them as filters through which to interpret their learning and with which to justify present and potential actions.” (p. 1). Further, Mockler (2011) and Noonan (2018) go on to discuss pedagogical strategies for sculpting teacher identity as part of teacher education. Teachers need to have appropriate learning opportunities to fit their practice. Much like Mockler (2011), Noonan (2018) also sees teacher identity as ongoing and in need of ongoing pedagogical work in order for teachers’ professional identities to evolve. This leads to understanding that:

Because teachers’ identities evolve over the span of their careers,
more nimble and responsive approaches to professional learning
like these and in contrast standardized, one size-fits-all programs
will be critical toward ensuring teachers’ continued growth and
improvement. (Noonan, 2018, p. 535).

According to Soreide (2007) “Identities are discursively and narratively constructed by the way people relate to the world and to other people.” (p. 131). Yet, Forbes and Davis (2008) argue that “Teachers’ role identity development relies on the ways in which a teacher envisions

them or herself fulfilling the role of teacher through practice.” (p. 912). There is an identity construction which is a productive way to connect to novice teachers’ own learning goals while understanding that teacher identity refers to identification as well as negotiation in order to create openings for new learning (Horn et al., 2008, p. 70). In this way, preservice teachers upon preparation, explore knowledge, implore on lived experiences, inquire through practice as well as acknowledge pedagogical ideals which then tend to overlap like a collage that create critical crossroads spilling outward to both schooling and scholarly communities (McDermott, 2002, p. 54).

Science Teacher Identity

Literature regarding the development of preservice science teacher identity builds on the more general work on teacher identity, but focuses more on specific knowledge, skills and dispositions related to science. Teacher identity has talked about science teachers as being as important to developing and shaping the actual self. According to Avraamidou (2016) “The collective findings of the studies on science teacher identity support the assumption that teacher identity offers a powerful lens for studying science teacher learning and development.” (p. 3). She explains how there is an important process which first indicates how science teacher learning and development is a way of understanding how one becomes a science teacher by paying attention to the interactions that teachers might entail as members of communities. Ayaamidou (2016) acknowledges connections between examination of ethnicities, emotions, and a personal history of science teachers. This is significant to my study since, just as this scholar’s research, I will be studying Latina preservice teachers engaged in communities of practice within the context of a methods course.

Chen & Mensah (2018) identify the challenges preservice science teachers face such

as low-self efficacy, self-confidence, and pedagogical content knowledge through the development of elementary preservice teachers and science teacher identity. According to Chen & Mensah (2018), “Constructing a science teacher identity during their teacher preparation is important to PSTs building stronger personal connections to science, seeing themselves as science teachers, and having the confidence to teach science in their classrooms.” (p. 421). Like Ayaamidou (2016), Chen and Mensah (2018) describe preservice science teacher identity in terms of communities of practice: “Constructing a teacher and science teacher identity within a community of practice is a complex endeavor because identities are constructed in the presence of and in relation to others.” (p. 422). According to both sets of authors, it is imperative to consider identity in terms of social context.

Similarly, Crawford (2006) situates science teacher identity within a discipline-specific community of practice. Crawford (2006) argues that “In order to achieve the goals of the NSES, science teacher educators must facilitate teachers in understanding the essence of science, the nature of scientific inquiry, and how to translate these understandings into the curriculum” (p. 617). As a teacher, the notion of becoming aware of how to navigate through certain systems of practice that are obligated to be followed is critical. Enyedy et al. (2005) claim that “[i]f a teacher is aware of their identity as a science teacher and how it is linked to their practice, they will have more “control” over changing or adapting a current teaching practice and be able to use their identities as a compass to navigate teaching dilemmas” (p. 92). This is significant because preservice teachers need to understand about the importance of adapting to a given curriculum while being conscious of best teaching practices. As a result of this, through adaptation to certain situations linked to a preservice teacher’s practice, a purposeful opportunity of transition can take place.

According to Wilson et al. (2015) gaining confidence is central to the transition from student to science teacher. They see the process of building preservice-teachers science teaching confidence as a vital role of teacher education. Towards these ends, they also claim that “It is imperative that teacher educators understand how to best support and encourage teachers in learning how to engage students in learning about scientific habits of mind and the nature of scientific inquiry.” (p. 637). Shultz and Ravitch (2013) argue that “Understanding the processes through which teachers take on their professional identities and finding ways to support teachers to understand and embrace these processes through explicit conversation, writing, and collegueship in teacher preparation programs is an essential first step.” (p. 44). It is then important to mention that for those teachers who have been long in the field, can often lead by example by encouraging and supporting preservice teachers to become familiar with science.

Science teacher identity models allow the teacher to construct from them and proceed to carefully analyze them for better understanding Forbes and Davis (2007) claim that there is an existent model that relates to the curriculum of mathematics and science. They mention that the “[R]emillard’s model assumes repeated cycles of curriculum design with the same curriculum materials, an opportunity that preservice teachers are rarely afforded.” (p. 913). This model is to implore on how science curriculum materials can help preservice teachers explore upon their role identity while furthering their understanding. Their mixed methods study consisted of forty-seven preservice teachers who were studied over the course of one semester, which results led to suggest that “[p]reservice teachers articulate important differences between their own and more experienced elementary teachers’ curricular role identity for science teaching and make progress toward appropriating the latter.” (p. 910). It is then understood that the participants in this study had an important role with identity.

Drawing from Lew's (2016) case study examines how science teachers transform into science by exploring teacher identity. The author explains how there needs to be continuous support as well as the explanation of terms such as hybridization, crystallization, and confrontation. A model from Hobbs (2013) is described in Shim's study pertaining to a Boundary Between Fields or BBF. This model describes, "[t]hree groups of factors influencing the negotiation of teachers at the boundary between subjects and its impact on their professional identity" (p. 36). Their study found that preservice teachers often struggled to situate themselves as science teachers in intersecting and integrated teaching practices and this inhibited their transformation into content-specific teachers. According to Lew (2016), there needs to be a contextual adjustment that deals substantively with developing science-specific elements of preservice teacher identity.

Siry and Lara (2012), offer a different perspective of transformation through the lens of the process of lived experiences which started thanks to a field-based science methods course. Luehmann (2007) claims that what is "Even more troublesome is the realization that today's teacher preparation programs are usually not well equipped to prepare a new generation of reform-minded science teachers, able and willing to engage in the practices identified as most promising to improve science teaching." (p. 822). She identifies two basic design principles, creating safe places for scaffolding and creating opportunities to be recognized, in order for there to be good science teacher preparedness based on the identity. Furthermore, she extends on providing an identity development framework which are the following four components:

1. People approach learning situations with core identities in place that need to align with the identity being considered.

2. Trying on a new identity within a community of practice (especially when it is counter to the norm) involves assuming risks.
3. While learning as professional identity development occurs through participation in specific professional activities, not all forms of participation and engagement are equal with respect to learning potential.
4. Learning as identity work occurs in the interpretation narration, and thus recognition of that participation (by self and others).

The framework mentioned above can prompt the science teacher with a better understanding and good preparedness in the field of science education while grasping that the transformation of one's own identity is not easy. This framework should help as a guide especially for preservice teachers who are new to the field. Yet, Moore (2007) argues that as science teachers, enough support needs to be provided to preservice teachers in order for ideas to flow while making them aware of the challenges of "change at multiple levels within and outside of science education" (p. 607). It is then important to seek support for continued guidance in science education.

While preservice teachers adapt to a given curriculum, certain strategies help with their confidence in teaching science. These strategies pertain to the models discussed which gives a science teacher a better understanding of how identity takes place while imploring on Luehmann's (2007) framework which helps the science teacher have better opportunities in understanding identity while prompting engagement through practice with mentors as well as through personal reflection.

Latina Science Teacher Identity

Baker (2002) argues that “The 1990’s brought a focus on fixing school science by employing more girl-friendly instructional strategies, topics, and curriculum as well as gender-fair assessments.” (p. 660). These girl friendly approaches respond to existing patriarchal society in which females are perceived as socially inferior and less suited for hard sciences where there are challenges in regards to constructions of gender and science (Scantlebury et al., 2007, p. 433). As Haste (1988) argues, both science and gender are socially constructed categories that reciprocally influence identity and meaning making. Another important study focuses on how girls can construct identities while engaging in science. Likewise, other subjectivities, including ethnicity and or culture, in addition to gender influence science teacher identity. Latinas are underrepresented in the teaching profession as well as in science. According to Irizarry and Donaldson (2012) there is a concern “[a]s Latinas/os from all backgrounds are underrepresented in teaching, strategic essentialism serves as a valuable heuristic for research aimed at diversifying the teaching profession and improving the educational experiences and outcomes for Latinas/os and other students who have traditionally been underserved by schools.” (p. 160). It is then important to help Latinas explore on teacher identity. As Day (2008) writes, “[t]eacher identity is important as a means of furthering understandings of the job of teaching and what it means to be a teacher in different policy and personal contexts and different times.” (p. 9). In relation to this important understanding, Haddix (2010) states that, “[p]reservice teacher culture, understanding that the process of becoming a teacher involves an acculturation into particular linguistic and cultural norms.” (p. 102). Meeting the needs and capitalizing on the strengths of Latina preservice teachers, requires an acknowledgement of social, cultural, and epistemological contexts and a pedagogical shift in teacher education to thinking about and acting on identity development in line with the specificity of these contexts. Irizzary and Donaldson (2012) write

“As the Latina/o population continues to grow and educational indices for this community continue to be discouraging, it is imperative that the perspectives of Latinas/os are solicited and leveraged to transform policy and pedagogy to better meet the needs of Latina/o youth.” (p. 161). So too with teacher education. For Guera et al. (2019), culture is seen as a key component to Latina teacher identity which can then attribute to the process of understanding the norms within transformation.

Jimenez & Gersten (1999) concur in their argument that since Latina(o)identity, language and culture is embedded within a classroom practice, it must be embedded in the education of Latina preservice teachers. Other challenges that Latinas face is that there are various beliefs of how teacher identities form and how they can relate which can often lead to specific transformations in regards to an individual’s understanding and adaptation to an identity.

In their study taking an ecocultural approach, Jackson and Suizzo (2015) discuss the Latina teacher identity as a juggling act in which Latina’s are trying to make pedagogical meaning out of multiple identities, developmental competencies, and science specific knowledge simultaneously. In their study, they find that Latinas are well aware of how their science identities are developed since they are supported by a web of influences. It is relevant because there are certain aspects that influence Latinas in order to develop science teacher identity. There is a strong belief that preservice teachers must prepare through practices and serve as a foundation for shaping science identities (Kier & Lee, 2017, p. 208). For instance, having a favorite teacher who is knowledgeable and experienced in the field is important as well as for those teachers who are enthusiastic as well as approachable made a deep impact. This is significant to my study since my background as a Latina, science teacher and actress offers me an opportunity to draw from my own identity resources to engage and support Latina Science

teacher identity. School experiences, contextual factors, media, cognitive ability, emotions, and career planning are some of the key points mentioned throughout their study that provide these science Latinas to prevail with their science teacher identity. Some of the school experiences that the authors refer to are those activities that are hands-on projects during their schooling. By having an educational opportunity in the U.S. and being a citizen, it emphasizes that this is a strong factor for leading Latinas to have a science teacher identity. In one study, Latinas amongst other ethnic groups are studied while the authors conceptualize on authoring of identity as an ongoing process. It is why Johnson et al. (2011) suggest that women of color have been “[a]voiding having negative identities ascribed to them and finding places where their racial and gendered identities do indeed intersect with their science identities, so that they do not have to step away from one identity to achieve another.” (p. 363). With this being said, fighting to stay within the science realm was difficult but not impossible. Authors Jackson and Suizzo (2015) write “Some participants became interested in science as they came to believe they were good at an intellectually challenging subject.” (p. 111). These main factors that are mentioned, serve as critical agents which create an environment along with the cultivation and fostering of science identity in Latinas.

Yet, as Morales (2018) argues, there needs to be enough support for Latinas in order to be able to transform and adapt to an identity. According to Morales (2018) “Sadly, general teacher preparation programs recruit for diversity, but seldom are equipped to support CLD preservice teachers in using their cultural and linguistic assets in powerful and effective instruction.” (p. 358). These programs are recruiting those with diverse backgrounds yet are not fully qualified in the sense that key components such as those pertaining to cultural and linguistic assets are lacking. There is an “[i]mmediate concern for preservice teacher education research and practice

to prepare the current, largely homogeneous teaching force for teaching culturally and linguistically diverse student population.” (p. 99). According to Hazari (2013) “This lack of empowerment in science may stem from earlier systematic educational issues that result in a decline of science interests that persists into college” (p. 90). There needs to be a persistence towards learning science and prompting an interest. To these ends, Avery and Meyer (2012) argue that “The negative experiences with science faced by preservice teachers often translate into their classrooms once they become teachers, perpetuating the didactic cookbook approach to teaching science.” (p. 395). It is evident that more support is then needed for Latina preservice teachers in order to attain a transformation in identity.

Arts-Based Approaches to Teacher Identity

Several important studies have explored arts-based pedagogy. Bridget & Cawthon (2015) argue that “If preservice teachers are not exposed to the practice of that arts integration and/or they do not identify themselves as teachers who will use arts-based approaches, then they will likely dismiss this research-based pedagogical approach. (p. 5). Anderson (2004) describes how the students can learn from role playing as well as through improvisation. He mentions how, “[d]ramas do not sharply distinguish between actor and audience; the learner is both participant and observer, playing a role while interacting with others in role.” (p.282). By participating in role playing, the senses are activated through mere observation and participation. This can then serve as a monologue where the actual “self” can mirror concepts through voice, tone, and perceive context through this type of drama technique which allows others to see the complex, yet innovative world of improvisation. He proceeds to say that “After engaging in problem solving while in role, learners have been able to step out of role and examine their prior thinking in a critical way.” (283). Anderson (2004) writes:

However, the methods of drama in education have the potential to create “as-if” worlds within the classroom that can foster situated learning. Drama frames can be constructed with essential elements of authentic contexts, thereby bringing the laboratory (or studio, archeological dig, etc.) to the classroom. (p.284).

One of the purposes of this study is to explore the role improvisational activities might play in engaging preservice teachers in powerful “as-if” scenarios in which they draw from identity resources of the present to experiment and embody pedagogical possibilities and future professional identities as science teachers. According to Anderson (2004), improvisation, gives the learner a unique way of acquiring knowledge through a combination of embodiment and imagination.

According to Saldaña (2010) improvisation allows participants reflect upon, ““What would I do if I was in that situation’?” (p.3). Applied to teacher education, improvisation, allows preservice teachers to construct and interact with personified examples of identity. With this in mind, improvisation is a type of performance. Relatedly, “Performance and performativity, write Phelan & Lane (1998), are braided together by virtue of iteration; the copy renders performance authentic and allows the spectator to find in the performer ‘presence’” (p.10). As applied to my study, this suggests that the performativity of improvisation might allow students and me as their teacher to engage in and embody questions of “what would I do” jointly as a key process of identity development linking current identity resources to future practice. Performances can give students multiple possibilities to express what they understand through various experiences. Norris (2020) writes “Those involved create scenarios about a given topic, examine and analyze each other's work, often with the intent of performing for others who are external to the process.” (p.64). It is understood that the preservice teachers are not professional actors, yet, through the

given scenes that will take place in each lesson, preservice teachers will examine each other's work. According to Stringer (2014) "Performances extend the possibilities for providing deeper and more effective understandings of the nature of people's experiences" (p. 140). I can relate to this since the preservice teachers had the opportunity to do improvisations firsthand while acquiring knowledge in science. Towards these ends, preservice teachers also experienced change through improvisations and made meaning of their improvisations and science.

Similarly, Lee (2015), discusses the ways drama based pedagogies promote process-oriented approach to teaching and learning in which students embody transformation from current to future selves or other possible selves. There is a belief and value of how these transformations amongst teachers and students embody the ways of knowing while these transformations can help reflect upon those beliefs that have once been questioned. For example, Bhukhanwala et al. (2017), suggest "through an embodied theatrical dialog, participants will be able to make their dilemmas visible, be able to reflect on their beliefs, their thoughts, their feelings as well as their assumptions" (p. 623). Dixon & Senior (2009) also examine the possibilities of arts-based pedagogy in preservice education. Their study focuses on ways arts-based pedagogy supports preservice teachers while constructing the understanding of pedagogy, the recognition of the place of identity, in teaching, and the appreciation for differentiated learning (Dixon & Senior, 2009, p. 3).

Ogden et al. (2010) connects arts-based learning in teacher education to the concept of authentic learning to argue for what they term "authentic arts-based learning." According to Ogden (2010) then "authentic arts-based learning is derived from the blending of authentic learning theories and arts-informed pedagogy" (p. 370). Ewing and Hughes (2008) claim that drama is an example of a current and recent arts-informed research while paving way in teacher

professional learning and also argue that “[t]he emergence of artistic paradigms and their use in educational inquiry has been relatively recent.” (p. 520). As for Booth and Hachuya (2004) they examine the way specific dramatic methods of actors can be deployed in teacher education so that preservice teachers “[m]ight develop their own capacities to communicate with their students in ways that will positively affect their learning.” (p. 33). Booth & Hachuya’s (2004) findings suggest that arts-based strategies as implemented in undergraduate teacher education were useful demonstrated in building students’ pedagogical content knowledge as well as in building instructional skill.

As someone who teaches preservice teachers and as a former actress who has had exposure to various theatrical modes of learning, careful implementation of arts-based learning such as improvisations, have allowed me to experience this powerful pedagogical combination which the literature discusses. Cote’s (2010) argues that teacher education must provide “experiential, meaningfully relevant, safe learning experiences that help develop an individual’s concept of self.” (p. 143). In my study, I want to explore the ways in which arts-based improvisational activities can provide the sort of space as Cote discusses.

According to Boal (1992) “We all are theatre, even if we don’t make theatre” (p. 17). This concise, yet often-used quote not only prompts the reader to understand that one does not necessarily need to be involved in theatre, be an actor or actress, nor know the profound skills and or discipline that it takes to take part in theatre itself. Instead, it is soothing to know that in some form or another, we are constantly evoking theatre on a daily basis by being involved in situated events where we are constantly performing. Perhaps that connection is made through Needlands (2009) when stating that “The disassociation of the arts from other living practices, and of artistic knowledge from other human knowledge, which is a characteristic of the subject

drama position, is a familiar strategy for those who claim, in the Kantian tradition, that the arts are autonomous and transcendent from the muck and murk of everyday life” (p. 180). On a daily basis, improvisational performances are taking place and shaping our lives often outside the awareness of the performers. In this study, arts-based pedagogy is a way of engaging students in purposeful, improvisational performances of teacher-identity that raise awareness of a multiplicity of possible pedagogical identities.

As Norris (2012) notes, these possibilities are not without risk. By incorporating these improvisations for Latina preservice teachers to take part in class, I realize that it is taking risks with them while attempting to explore possible identities as a part of developing teacher identity. The following will discuss chapter three and the methodology that applied to this study.

Points of Departure

This chapter has presented an introduction to the scope of the literature that relates to my study. Chapter two also discusses scholarly literature related to the importance of preservice teacher identity, science teacher identity, as well as literature relating to Latina science identity. After the review of the literature, it is evident that there is a gap in the literature how Latinas can use an arts-based approach such as improvisation as a pedagogical tool to implore on science content. I am hoping that my study can take part in mending the gap as well as motivating and inspiring Latinas to move forward with an innovative approach. In chapter three I discuss how the study was conducted such as research design that includes the setting, participants, data collection, semi-structured interviews, three improvisational arts-based activities as well as data analysis. The following includes the methodology that pertains to my study.

CHAPTER III

METHODOLOGY

This chapter discusses the arts-based, research design, data collection and participant observation and researcher positionality. As a reminder from chapter 1, this study attempts to answer the following research questions:

How do preservice teachers at a large HSI wrestle with issues of identity and culture through theatre-based lessons aimed at imaginative engagement with their current and future identities as teachers and learners? Further, in what ways do Latina preservice teachers embody the transition between a science student to a science teacher when engaged by arts-based improvisations?

With these guiding questions, this chapter begins by summarizing and gathering up major theoretical threads of teacher identity development.

Qualitative Action Research

According to Saldaña (2011) “Qualitative research is an umbrella term for a wide variety of approaches to and methods for the study of natural social life.” (p. 3). He then defines action research as a ‘change agenda in its fieldwork’ and writes “Participants are viewed not as research subjects but as empowered collaborators working to make their local conditions better.” (p. 155). These definitions apply to my overall qualitative approach to my study in which I am relying on data gathered in my virtual Zoom teacher education classroom in which I will be analyzing and

interpreting participant observation, interview data and improvisational performance data. Mills and Gay (2016) define qualitative research as “[t]he collection, analysis, and interpretation of comprehensive narrative and visual (i.e., non-numerical data to gain insights into a particular phenomenon of interest). (p. 7). In this section, I provide an overview and rationale for my overall research design beginning with a discussion of action research.

Miles, Huberman, and Saldaña (2014) claim “One major feature of well-collected qualitative data is that they focus on *naturally occurring, ordinary event in natural settings*, so that we have a strong handle on what ‘real life’ is like” (p. 11). With this intention, action research provides the teacher-researcher with the ability to identify the needed changes that need to be made while having a ‘more real’ approach. (Sax & Fisher, 2001, p. 79). According to Stringer (2008) action research is “[r]eferred to as inquiry learning, it is particularly relevant to those who engage in constructivist approaches to pedagogy.” (p. 2.) What I understand from this definition is that action research pertains to ways of engaging through types of action movement. Educational researchers have used action research to explore a variety of topics central to teacher education (Banegas 2011; Borg 2006; Burns, 2000). More directly related to my study, (Jove, 2010; Goodnough, 2010; Wyatt, 2011a) used action research to explore preservice teacher identity. More specifically still, Price & Valli (2005) used an action research approach to explore issues of Latina preservice identity as they mention the “[e]xperience of being change agents, to inform pedagogical thinking about preservice action research” (p. 67). Similarly, this study utilizes an action research design when Sagor (2005) defines action research as “[a]ny investigation conducted by the person or the people empowered to take action concerning their own actions for the purpose of improving their future actions” (p.5). This definition refers to the actions that took place in some shape or form of improvement by those who took part in

it. Further, action research is not only a way of having actions being put to practice but finding the needed solutions in order to monitor the process and outcomes of change. (Meyer, 2000, p. 8). This fits the purpose of this study because according to Mills (2018) “Action research is largely about developing the professional disposition of teachers, that is, encouraging teachers to be continuous learners- in their classrooms and in their practice” (p. 17). By using an action research design, I become a continuous learner as well as the researcher. The preservice teachers will explore teaching practices, structural systemics, and concepts of self.

Stinger (2014) asserts that “The primary purpose of action research is to provide the means for people to engage in systematic inquiry and investigation to design an appropriate way of accomplishing a desired goal and to evaluate its effectiveness” (p. 6). One desired goal of my study is to prompt preservice teachers to reflect on what type of educators they want to be. Another desired goal is that the approach that the preservice teachers to the lessons that will be provided, will help contextualize their identity. Stringer (2014) writes “Action research seeks to develop and maintain social and personal interactions that are non-exploitative and enhance the social and emotional lives of all people who participate” (p. 23). Action research allows me, as the researcher, to inquire along-side my student-participants in order to gain insight into preservice teacher identity development whose goal is to also assist in identity construction and reconstruction.

Arts-Based Action Research

There are various options relating to arts-based such as poetic or dramatic write-ups dramatized either through monologues or dialogic forms as well as photography, dance and music which showcase ways of knowing. (Saldaña, 2018, p. 10). This shows how an arts-based approach can

have a broad description. McNiff (1988) relates to this when he says “I define art-based research as a method of inquiry which uses the elements of the creative arts theory experience, including the making of art by the researcher, as ways of understanding the significance of what we do within our practice.” (p.13). This method of inquiry can then be analyzed. According to Norris (2016) “Research whether it is quantitative, qualitative, or arts based, collects data, analyzes it and disseminates it to others in one form or another.” (p. 125). Leavy (2018) then writes “Arts-based researchers are carving new tools, forging new pathways to knowledge, and imagining new shapes for the outcomes of research.” (p.11). Some of these researchers are mentioned by Leavy (2018) when she says that “Joe Norris and Johnny Saldaña have each brought their theatre arts background to bear in the qualitative community” (pg. 8). This then prompts for there to be ways for my study to be part of a pathway to learning since my study aims to use improvisation as a pedagogical tool as an arts-based approach.

According to Leavy (2018) she describes how one of the benefits of arts-based research “[l]ends itself to a deeper knowledge of the subject matter through artistic stimulation of the participant, the researcher, and the audience” (p. 522). In effect, there is another benefit when Lesha (2014) writes that “Action research is a teaching, learning, and decision-making process that can be used in a myriad of ways to assist the learning process of students and teachers.” (p. 383). To this end, by arts-based action research then can heighten a community of practice’s “sense of itself, can carve out not only a physical but psychic space for deeper reflection and has a capacity to disrupt” (Campbell, 1988, p. 13).

Burns and Westmacott (2018) suggest that “[a]ction research can also help teachers to develop professionally in different ways, such as enhancing knowledge of their teaching practices, deepening their understanding of their students’ needs, and improving their autonomy

and motivation.” (p. 16). As for Goonough (2010) “[t]he action research process such that there is a balanced interplay among modes of belonging. In other words, the approach to action research needs to be teacher-centered and teacher-driven and afford teachers opportunities to engage in knowledge creation.” (pg. 180). For this reason, an arts-based approach can easily bond with arts-based research through the arts and pedagogy. Arts-based research provides self-awareness of the practical skills such as in planning, setting the criteria, observing, assessing, and evaluating while conducting classroom-based action research (Wyatt, 2011, p. 423). Both Bridget & Cawthon (2015) argue that “If preservice teachers are not exposed to the practice of that arts integration and/or they do not identify themselves as teachers who will use arts-based approaches, then they will likely dismiss this research-based pedagogical approach. (p. 5). Improvisation can then serve as a good pedagogical approach through inquiry. Norris (2020) writes “By asking what if, researchers begin to manipulate variables until a particular combination arises that is worth keeping” (p. 63). This relates to my study since the activities that preservice teachers participated in, had the opportunity to refer to these “what if” moments when taking part in the lessons where improvisation took place. This authentic arts-based learning is derived from the blending of authentic learning theories and arts-informed pedagogy. (Ogden et al., 2010, p. 370). I can rely on improvisation as an approach to my study since this form of pedagogy was used as a pedagogical tool.

Setting and Participants

Setting

This study's setting was a methods course in a teacher preparation program at a Hispanic Serving Institution, Los Dos Laredos (pseudonym), located in a metro-area called TexiMexi along the Mexican/American border in deep South Texas. According to the U.S. Census Bureau (2019) the city of TexiMexi (pseudonym), which is located between Cameron and Zapata county with a population of 182,781 people, includes 94% Hispanic or Latino. The earned education of a high school, graduate, or higher degree of individuals over 25 years of age, consist of 64.3%. As per the economy, the median household income is \$36,499 while the poverty rate is at 31%. The city is the largest from those surrounding cities in the region.

This institution, which is distributed across three main campuses, is the second largest HSI in the US and according to the Integrated Post-Secondary Educational Data System or IPEDS, the enrolled student population at this institution is 89% Hispanic or Latino. Hispanics or Latinos are ranked as the most common race/ethnicity being 19.4% times more recipients than other races. In addition, the most common race ethnicity and gender grouping at this institution is Hispanic or Latinos. In this study, I refer to this institution as my research site where preservice teachers enrolled in the educational courses were undergraduates. This undergraduate education course of Fall 2021 took part during the length of the semester. This course focused on the instructional planning, management and assessment methods for effective teaching that integrates educational technology and field-based experiences. The course was appropriate for

culturally and linguistically-diverse populations whose topics include the principles of curriculum, instruction, assessment, classroom management and classroom climate. The prerequisite to this course is the admission to the College of Education EC-6 Teacher Education Program as well as taking the educational course. Due to the pandemic, Zoom was our virtual platform.

The College of Education P-12 Integration is an accredited Texas Education Agency teacher educator program that has 98.4% of Hispanic students. This program includes specializations in Special Education, Bilingual, ESL as well as Early Childhood all level EC-12 with an expected overall coursework GPA of 2.5. The program is aligned to those professional standards that align to that of national teaching and preparation standards. In addition, 4-8 middle school, 7-12 high school as well as the math and science teacher preparation programs are also included. The program prepares teacher candidates for the core exams EC-6, content exams, as well as the professional and pedagogy and responsibilities exam. The program also provides the initial and professional class certifications. Teacher candidates also take part in field experiences that allow them to have direct interaction with teachers and students

Participants

The participants in my study were undergraduate preservice teachers who were part of an education program from a Mexican-American border institution. One criteria for this qualitative study is that preservice teachers be enrolled in a 15 week teacher education course in Fall 2021. Other criteria was that the preservice teacher be Latina. I selected 5 students which criteria were based upon being a Latina who were willing to participate in my study. The purpose for focusing on Latinas is due to them being underrepresented in teacher education and in teacher

education literature. Irizarry and Donaldson (2012) write “Latinas/os from all backgrounds are underrepresented in teaching.” (p. 160).

Data Collection

This section describes processes of data collection and data sources. Data was collected through interviews and participant observation which data sources include field notes, Zoom interview recordings and transcripts and researcher journal entries.

Participant Observation

Participant observers have an important task since one not only gets to adopt various roles and or positions but perspectives while observing others (Saldaña & Omasta, (2018), p. 34). I gathered data by observing improvisational activities of my own students in an elementary 15 week methods course. All students from the course were required to participate in these activities since it was a regular requirement of this course and only those students who had a signed informed consent were counted as participants in this study. All participants were assigned pseudonyms and no identifiers were used in fieldnotes. There were three improvisational activities; *Letter-to-Self*, *Pulling Pulls Through Zoom*, and the *Fourth Wall*, that took place and recorded in Zoom breakout rooms at the beginning, during, and end of the semester. I observed the preservice teacher’s improvisational experiences as they interpreted key concepts in science topics that led to performances. In all 3 observations I paid special attention to ways students internalized science specific content, experimenting, and imagining pedagogy and embodying possible identities.

I took handwritten fieldnotes of the three recorded lessons as a data source. Glesne (2010) suggests that I should “[t]ry to observe everything that is happening: make notes and jot down thoughts without narrow, specific regard for your research problem” (p. 69). According to Saldaña and Omasta (2018) they write “Observations are best documented in some way through writing and/or visual methods for recall and analytic reference” (p. 38). These field notes aligned to the importance of having observational data pertaining to the beginning, middle, and end of the semester. Student confidentiality has been ensured since I have kept my handwritten field notes in which students are referred to only by pseudonym in a journal under lock and key at home. I used Zoom recordings as a data source and are now kept in a file on a separate encrypted, pass-word protected computer. Another data source used was a reflective journal to include jotted notes as a mode of keeping an outline for more elaborated notes (Saldaña & Omasta, (2018), p. 40). After class, I revised my jotted notes, reviewed my recordings, and filled in the needed information to my research journal. According to Saldaña (2018), “Action researchers contribute to the literature through meticulous record keeping of their experiences and reflexive observations” (p.29). Towards these ends, I kept my raw observations recorded in my journal.

Interviews

I met with 5 participants in three rounds of interviews using Zoom. Zoom was used for my study due to the uncertainty of face-to-face interviewing during unpredictable COVID restrictions. These interviews, conducted at the beginning, middle, and end of the semester, were aimed at exploring preservice teachers’ experiences engaging in improvisation and uncovering any connections to students’ emerging identity as preservice teachers. Semi-structured interviews

are well suited for the aims of exploring participants' experiences and their perceptions of those experiences (Adams, 2015). According to Edwards & Holland (2013) "[s]emi structured and unstructured, is the area occupied by qualitative researchers, with the interviews characterized by increasing levels of flexibility and lack of structure" (p.2)

I took on the spot fieldnotes during the interview and spent 30 minutes after each the interview to expand on my field notes. As suggested by Saldaña and Omasta (2018) I had an 'opening script in order to introduce myself' (p.105) as well as to build rapport with the participants at the beginning of each interview. The first 30 minute interview consisted of will focus on contextualizing students' current experiences preparing teachers in relation to their experiences as students growing up, with prompts that address perceptions of science (See Appendix A for interview 1 protocol). The second 30 minute interview conducted at midterm consisted of 4 questions centered on the letter-to-future self-activity and connections to emerging teacher identity (See Appendix B for Interview 2 Protocol). The third interview was designed to be an hour long and consisted of 7 questions aimed at participants' perceptions of the *Third Wall* in tandem with their perceptions of the improvisational assignments in general and their relation to their emerging identity as teachers. I then transcribed each interview by hand.

Arts-Based Pedagogical Improvisational Activities

The following lists the improvisational activities that focused on identity:

Letter-to-Self

This activity pertains to sending a letter to their future-self where there was no shift in role or persona as per character. This letter was read by another classmate who took the letter and wrote back as the same person ten years in the future. The letter written, was read by a classmate, and a Hotseat form of action took place. For example, one way to understand this

activity is if one person happens to take the role of a person who is interviewing for a job, the other person then takes the soft role of a parent meaning there needs to be no background knowledge to a specific character. Preservice teachers talked about the locus of control of the external and internal factors of becoming a teacher in ten years in their letters as one prompt.

Pulls and Pulling Through Zoom

This activity is an extension to Activity 1 *Letter-to-Self* where Zoom served as part of my set. A preservice teacher was in the middle of the screen after they read the letter and one peer was on the side who threaded the conversation as a steppingstone or stumbling block which served as a way to view what can prevent that person from becoming ten years from now. This served as an improvisational response to the letter. The screen was in gallery mode and there was a moderator.

Fourth Wall

This activity consisted of embodied science simulation teachings where preservice teachers were given background characteristics. Students were broken up in groups of five individuals where one was the profile teacher and the rest were the students. There were specific prompts to follow where each were given characteristics of a role to play in detail. The students were randomized and separated in Zoom breakout rooms.

Each lesson was designed to not only fit the course syllabus but also aligned to science concepts. Science concepts that were taught throughout the course while targeting elementary skills that can be enhanced through improvisation and whole group sessions were sought out. Please refer to Appendix D, E, and F which has the protocol for each of the activities mentioned above.

Data Analysis

According to Wallen & Fraenkel (2001) data analysis “[e]nable researchers to organize and simplify the information they have collected” (p. 203). To this end, I organized the data I gathered from the interviews while taking field notes and coding. As for coding, Saldaña (2021) relates to “[c]odes taken directly from what the participant himself says and is placed in quotation marks” (p. 7). The In Vivo coding did fit the intended action practice that I wanted for my preservice teachers to do since this type of coding helped “keep the data rooted in the participant’s own language” (Saldaña, 2021, p. 11.) The following is a description of three important components of my study that was analyzed and are significant in terms of practice: Participant observation and field note data was analyzed using thematic analysis across participants and data sources for I looked across interviews and described the layers. I noted themes that were present from the 5 participants who met the criteria, compared them, and noted which ones might be the same and or different. I heavily rely on Guest et al. (2014) when stating that “[a]n analyst simply examines the different expression of themes across groups and notes which themes/concepts are similar across groups and which are different” (p. 3). Towards these ends, I looked closely at the themes which came across through my interviews. According to Guest et al. (2014) “Thematic analysis move beyond counting explicit words or phrases and focus on identifying and describing both implicit and explicit ideas within the data, that is, themes” (p. 9). Themes were generated for each participant in each round of interviews and then analyzed across participants and across interviews. This qualitative nature of comparison then allows for one to see the expression of concepts and how they differ (Guest et al., 2014, p. 4). I gathered the layers of analysis for interviews by interviewing one participant, then across themes. I also conducted thematic analysis of select student performances in improvisational

performances embedded in the classroom activities described below. I identified, explored, explained, compared, and combined these themes with interview and participant observation data in order to weave together themes across data sources and participants. (Guest et al., 2014, p. 11). In line with Norris (2016) and Ruta (2021) my analysis of improvised performance focused on gestural aspects of performance in addition to content, word-use, and overall participant observation:

- i. In *Letter-to-Self*, preservice teachers wrote a letter to their future self and was read by another classmate who took the letter and wrote back as the same person ten years in the future.
- ii. In *Pulls & Pulling Through Zoom* was an extension to lesson 1 Letter to Self where Zoom served as part of my set using gallery mode giving the opportunity to respond to the letter through improvisations.
- ii. In *Fourth Wall* preservice teachers were given background characteristics divided to five individuals and given specific prompts. Preservice teachers were randomized in Zoom breakout rooms.

Ethical Considerations

Informed Consent

Before interviews took place and course produced artifacts analyzed, I explained the study and presented participants with consent forms. These consent forms consisted of three sections in which the first part provided information to them in a way that it is understandable, the second one being the individual's agreement to take part in my study, and the final document pertained to a voluntary access to the participants whether or not they wanted to participate in my

study. I have separate consent forms for analysis of course artifacts and interviews and stressed that participation in the study was fully voluntary and that participants could withdraw from all or part of the study at any time without it impacting their grade or participation in the course. Please refer to Appendix G which includes the recruitment of participants which in them I have included the protocol for this section as well as Appendix B and C for the Consent Form protocol.

According to Saldaña and Omasta (2018) “[O]nce participants understand the study, they must willingly consent to participate in it and must have the opportunity to revoke their consent at a time during the study without repercussion” (p. 193). Participants were given my UTRGV email with an invitation to my study to take part in. Once they accepted, I forwarded a participant consent form. Participants were given an explanation of my research, the duration of my research, as well as a description of how my research would be implemented before any interview process. I gave my participants a full week in order for them to consider participation. The consent form stated that participation would not affect their service-learning course grade. The consent form also stated that I would inform each of the participants with their rights; the right to refuse participation; the right to withdraw; and the right to decline to answer any questions. There were very low anticipated risks associated with the participation of the preservice teachers. Participation was fully voluntary and not associated with grade in course. They were not exposed in uncomfortable situations, whether psychological nor physical. The participants were and will be kept anonymous, since pseudonyms will be used.

Confidentiality

As a researcher, I have made sure that the data collected be stored in encrypted files on a password-protected computer that only I have access to. Interviews took place in an access

password protected Zoom room with individual links from my Zoom account separate from teaching room. All participants were assigned a number and then a pseudonym attached to number. The only key used connected the participant number to the pseudonym without any identifying information. A pseudonym was used for the institution of where my study would take place. The recordings were secured in an encrypted file in a created folder on a separate password protected computer and will be erased after 3 years and after that I will delete files containing data from the study. All data is stored, is anonymous and without any identifiers that could link the data to a specific subject. After material has been stored for the 3 years, all data will be destroyed. No one but me, the principal investigator, will have access to the data. I have kept the identity of the participants private by using pseudonyms in reporting and or presenting the research of my study.

Trustworthiness

In regards to trustworthiness, I used multiple sources in order to analyze my information. Marshall and Rossman (2011) relate to this when they claim that “[t]he potential trustworthiness and goodness of a study should be judged not only by how competently it is designed (according to the norms and standards of a discipline) but also by how ethically engaged the researcher is likely to be during the study’s conduct.” (p. 44). In this study, I rely on my participant observations and interviews while implementing the needed coding where I analyzed the data through my field notes using pseudonyms. Lastly, I related to two important facts to the trustworthiness of my study. The plan was trusted thanks to the specific and careful planning that took place throughout the designing of my study.

Points of Departure

In this chapter I discuss arts-based research while implementing an action research approach. First, I focus on the research questions while aiming to describe the rationale for using a qualitative research design. To this end, I provide an overview of qualitative action research, action research, and arts based research. Second, I discuss the research setting, participants, and data collection. The section on data collection includes what I used in regards to participant field notes, Zoom recordings, and participant journal. Next, I elaborate on data analysis while using Saldaña's In Vivo Coding as well as Thematic Analysis in order to help me dissect my study to a deeper level through themes. Then, I follow with the ethical considerations which include informed consent and confidentiality. Finally, I discuss the issues of reliability and trustworthiness through the descriptions of credibility, transferability, dependability, and confirmability. This study also allowed me to reflect upon my teaching while using improvisation as an important mode of an arts-based pedagogical tool.

CHAPTER IV

FINDINGS AND ANALYSIS

This chapter derives from three interviews of the participant observation which are discussed in section of the first interview, Teacher Identity in the Moment, Analysis of *Letter-to-Self*, the second interview, The Power of Improvisation Through Movement in Identities, *Pulls and Pulling Through Zoom, Fourth Wall*, along with the conclusion that embeds the third interview, Science Identity: Transitioning Through Action. The chart below shows the themes that emerged from each of the three performances and identifies the primary themes from each round of interviews, and the themes that I identified across both data sources.

Table 1: Themes

Performances	Interviews	Across Both
<i>Letter-to-Self</i> *From Reflection to Practice *From Pretending to Possibility	Interview 1: Teacher Identity in the Moment *Student as Belonging *Teacher as Mean *Student as Reluctant Science Learners	Centrality of the Teacher *The teacher was an essential player and all expressed desire to play role of the teacher.
<i>Pulls and Pulling Through Zoom</i> *Improvisation from Unexpected to Expected *Improvisation from Timid to Confident	Interview 2: The Power of Improvisations Through Movements in Identities *Student as Motivated Teacher *Student as Professional and Personal Growth *Student as Paying it Forward	Confidence An apparent confidence emerged with their teacher identity as they moved further on through to each improvisational activity.

Table 1: continued

<i>Fourth Wall</i>	Interview 3: Science Identity Transitioning Through Action	Language:
*Improvisations from Novice to Maestra [Teacher] *Improvisation from Student to Latina Science Teacher	*Student as Teacher *Student as Becoming *Student as Pedagogical Strategies	Improvisations helped build on their teacher identities while making deeper connections to their linguistic diversity.

This then gives way to understanding the themes that emerged. In the first interview, Teacher Identity in the Moment, the themes that emerge are Student as Belonging, Teacher as Mean, and Students as Reluctant Science Learners. As for the themes that emerge in *Letter-to-Self*, they are Reflection to Practice, and Pretending to Possibility. In the second interview, The Power of Improvisation Through Movement in Identities, the themes are Student as Motivated Teacher, Student as Professional and Personal Growth, and Student as Paying it Forward. In *Pulls and Pulling Through Zoom*, Improvisation from Unexpected to Expected and Improvisation from Timid to Confident pertain to this section. In the *Fourth Wall*, Improvisation from Novice to Maestra [teacher] and Improvisation from Student to Latina Science Teacher gives life to this particular section. And finally, Science Identity: Transitioning Through Action which includes the third interview where there are three themes to this section that are Student as Science Teacher, Student as Becoming, and Student as Pedagogical Strategies. This last interview is embedded as part of my conclusion. This chapter also goes on to discuss the findings derived from these themes in relation to the literature. Findings included Teacher Identity, Latina Teacher Identity, Science Teacher Identity, and Arts-Based Approach to Teacher Education.

Below is the chart that summarizes these themes of the primary findings that will be discussed in this chapter.

Table 2: Primary Findings

Teacher Identity	<p>*Lessons helped build relationships between self, peers, and arts-based improvisations when engaging and constructing identities. (McDermott, 2002)</p> <p>*Improvisations helped build a commitment to teacher identity development in science. (Lew, 2016)</p>
Latina Teacher Identity	<p>*Struggled with their identity when referring to their past teacher education. (Avery & Meyer, 2012).</p> <p>*Improvisations gave way to their teacher identities, linguistic and science content as well as with the construction of future-selves. (Eisner, 2001)</p>
Science Teacher Identity	<p>*Improvisations served as reinforcement and “powerful lens” for the building of their science teacher identity and delivery of science content-based lessons. (Avraamidou, 2006).</p> <p>*Preservice teachers embodied science teacher characters and took over lessons in the <i>Fourth Wall</i> activity building on an apparent confidence. (Chen & Mensah, 2018).</p>
Arts-Based Approach to Teacher Education	<p>*Improvisations served as a bridge to connect to their current and future identities engaging in purposeful performances while examining each other’s work. (Norris, 2020).</p> <p>*Activities led participants to transition from science students to science teachers helping unravel and shape their science teacher identity. (Kier & Lee, 2017).</p>

The findings on this chart carried the most weight across all the data sources. As discussed in chapter 3, I analyzed the data from each participant in all 3 interviews and then across the participants as well as the performances that took place.

In this chapter I talk about the themes that emerged throughout this study. I have coded the themes thematically and how they relate directly to the development from student to teacher particularly to Latina Science teacher. Each section is arranged to show where the themes then highlight data in relation to the questions.

There were five Latina participants who were eager to get started but at the same time were nervous. From these five participants, there was one who would always have a hard time focusing on answering the questions throughout all of the interviews at the beginning of each one. As for the other four participants they were ready and engaged to participate in answering my questions. There were unique moments in interview two and three where I had to wait and pause more than once due to a couple of participants who were very emotional. At times, I thought I would be asked if they could continue on another day, yet these participants moved on to converse. The wait time allotted helped for them to incorporate and continue with interviewing, which process ended up being an amazing and humbling experience. The following elaborates on each interview, the corresponding themes along with the supporting data, as well as the analysis of the three pedagogical arts-based activities as they took place in the particular order.

Teacher Identity in the Moment

This first interview consisted of four questions that were aimed at building rapport with the participants. The questions can be found in Appendix C. This interview was done two weeks prior to the activity since it was designed to go with the *Letter-to-Self* Activity 1. I wanted to know some things about their identity before I began the class and the performances of what I was going to be working on pedagogically. As for the arts based pedagogies, which are the focus of this study, I wanted to get some information about them and their sense of identity to start with. The researcher

greeted the participants through Zoom and rapport building questions took place about their day prior to the interview questions. Overall, the participants seemed to feel comfortable as they responded to the questions from all of my three interviews. The following section discusses the themes that emerged from interview 1.

Student as Belonging

Interview one was aimed at building rapport focusing on contextualizing participants' experiences with preparing to be teachers in relation to them growing up. Throughout interview one, participants discussed school experiences in terms of challenges related to the sense of belonging. This connects to Riva et al., 2011, Williams & Nidia, 2011, and Williams, 2001 since participants discuss how they would be ignored which rejection directly ties to ostracism. The participants had already been in the United States when they started school while the other three participants came to the United States. As for the transcripts from interview one indicate that for immigrant students the transitions were difficult. For example, Stormy, Red, and Agogó describe discrimination, intimidation, and at times bullying who attributed to their own behaviors that then led them to being shy and or quiet. These experiences which represent tensions of belonging were then coded. Autumn discusses how living in a town where hardly any Spanish was spoken was difficult for her. She talks about how playing sports helped her have a sense of belonging. Yet, when back in the classroom she would be put on the spot by teachers who would ask her to read aloud. During our interview, she discussed how comprehension skills were simply not her thing. However, much of the interview was devoted to issues of belonging.

As for Stormy, she is the most shy of all the participants. In class and in her first interview she often appeared on screen with her arms pulled in close together on a table with shoulders shrugged. Sometimes she would often lift up her glasses from her nose and look

sideways $\frac{3}{4}$ profile into the camera instead of engaging with the camera straight on. Well, at least this is what was happening during the first interview. When asked to think back to growing up and describing herself as a student, Stormy recalled her schooling years when she first arrived in the United States, she again lifted her glasses and said,

...I became very shy...um...I was afraid of being bullied.

This was powerful to me. I became involved in this conversation to a personal level since I too could relate when feeling that I didn't belong and afraid of being bullied due to my accent in Spanish when first arriving in Mexico City. It was until then that she moved away from her desk, put her back straight up against the chair and had now turned her face fully towards the camera. By this point, I knew that I had connected with my participant to a different level.

A participant named Red fidgeted through the interviews and gave expansive answers that roamed sideways, sometimes without apparent focus. For example, when asked about the time she first thought about becoming a teacher, she tried to explain about her frustrations while trying to graduate high school. She was being stalled due to the lack of some courses that she still needed to take, but then became somewhat bothered when talking about what happened with her former principal when she said,

...So, the principal told Mrs. [name] that no I could not take the English classes and all that. And I remember that I went with the principal, and I speak with somebody like an assistant principal or something like that and that I wanted to transfer from school because in the other high school they help students, and they don't want to help me there ... so I told her you know what? I am dropping high school and she told me that I had to write a letter and that if I would drop high school that I cannot assist any school at the district. She told me just like that just because I had that I any other high school cannot

admit me because I was already 18 and if they are refusing to give me the education so I read everything in the so everything in the letter I wrote it, and I took a picture and they made me sign the letter because that was a reason, I was dropping high school.

Red believed that she was being intimidated by her principal and attributes this to dropping out of high school. Yet she had a teacher advocate and reversed the paperwork by bringing in a superior from the ESL department. Her understanding of which direction she had to take was determined by her superiors. Red seemed to be eager of what direction to take in order to make the right choice. Now if we speak in a cultural aspect, not only did she have the courage to confront her superiors but took the initiative to stand for what she believed was right. As someone who was new to our country, who didn't know her rights as a student, she simply stood up for herself. Having the teacher as an advocate gave her the needed power as a student to move forward and take action to not quit school. Even though she knew that administration was not acting fairly, she found the needed support. Red was discouraged yet managed to get out of an entanglement that would have only led her to not continue her education. This challenged Red's identity in the sense that fear and intimidation had taken over due to the situation that she was in. It is then understood that teacher identity is continuously under construction (Reeves, 2018). Red's sense of belonging was in effect, unbalanced.

As for Dreamy, she discussed school experiences which she felt that she did not belong. For example:

I remember in 5th grade, I had this pretty teacher. Like she was blond. I saw her like Barbie...super pretty teacher. But she wasn't approachable. I would talk to her, and she would like talk to me like, like "oh this is the way you're going to do it!" But I really

wouldn't understand her like tell me the stuff to do. So, I was like just be on my own...

Like I was conservative.

In this last sentence, Dreamy mentions the word conservative. In Spanish this means “conservador” which is shy and timid. Dreamy extends that her teacher was blond and pretty but not approachable. Yet, she would talk to her but wouldn't understand. She expresses how she wanted to know what to do but that she was on her own. I connect this with identity having to do with shadowing and limiting the wounds and fears as well as with the strengths and potentials (Palmer, 1998). Even though Dreamy was shadowed by a pretty blond teacher who she might have felt fearful to approach, she still had the strength and courage to talk to her. Being conservative refrained her from insisting of wanting to have additional instructional information to be clear.

Similarly, Agogó reveals how she was afraid of the teacher and how this had an impact on her grades and more broadly on her sense of belonging and identity. Hirsch and Clark (2019) address the role of the teaching in helping establish a sense of belonging and the connection between belonging and identity. They write “[w]hen a sense of belonging is missing or threatened, humans strive to belong” (p. 239). Agogó needed a sense of belonging of her own academic identity. This would have been possible if her teachers would have provided a nurturing environment and positive attitude in order to promote trust and positively impact her since she was fearful (Bledsoe & Baskin, 2014). She brings Covid into the conversation when she says:

I do struggle a little bit with my English, and I think that's because of Covid... We didn't have class and the teacher is the only one talking so it's been almost 2 years since we've been in Zoom, and I think that it affects... so that's why I try to get to work that with the

students that got back and trying to practice to get all the experience so I could be ready...that's when I knew what kind of teacher wanted to be.

It was interesting to see how she puts the blame on COVID for her lack of practicing English. She also mentions Zoom as a way of intruding to her previous ability to practice in person. Due to being away from the face-to-face interaction for two years, interfered with her style of learning as well as to that of working as well. It is evident that she wants to get back to working with the students so that she can get to practice her English more as well as gain experience in the field of education. Agogo's identity was challenged in adapting to a sense of belonging due to the given circumstances of the pandemic as well as learning online.

Data from interview one reveals much about student experience of not belonging and the ways this influenced their sense of identity. According to Lutovac & Flores (2021) “[p]reservice teachers’ understandings of failure play an important role in resilience and are crucial for the professional identity” (p. 382). For some participants the sense of “not belonging” was expressed as difficulty navigating hostile or impatient teachers while others were ignored. However, participants also discuss experiences regarding belonging. For example, Autumn has a sense of belonging not only by playing soccer with teammates, but also because some teachers would ask how it was going with the sport which she genuinely believed that she was being cared for. This connects with having a sense of belonging when having relationships with people, or a group of people, that brings out a secure feeling of fitting in (Lambert et al., 2013). By playing in a soccer team, influenced a sense of belonging while prompting a positive identity. Her identity and her relationship to the love of the sport of soccer were explicitly linked. The following discusses the second theme that emerged from the first interview.

Teacher as Mean

The participants consistently reference how they struggled in school due to their linguistic challenges and how they perceived teachers being mean to them. They mention how confused they were and how they would not understand the terminology being used in their classes. Being ignored in class is also mentioned by some of the participants since they were expected to problem solve on their own knowing that they were not familiar with the language. According to Denessen et al. (2020), “[s]tudents from lower socioeconomic and minority ethnic backgrounds appear to be at risk for being underestimated by their teacher” (p. 1). These have stood as obstacles in their learning process and teachers have had much to do with them not moving forward.

Autumn was a struggling student who was often ridiculed in class due to her confusion between English and Spanish. Teachers would ask her to read in front of the class and she would proceed to saying words in Spanish. This then led to being laughed at. She said:

... they would tell me things like, “I can’t believe you are in third grade and you are struggling to read this book...I can’t believe that.” It would put me down since I would struggle with some of the words, so, I think that as a kid, I would get all shy and I would not want to read anymore...And um I would have them like laugh or things like that since I couldn’t say some words, like I would read it in Spanish and it was an English word so, but I wasn’t trying to be funny...So, yea so I struggled in school... but I learned now that it's not that I wasn’t capable of doing it...I just needed my own way of learning of how to learn these things...My teachers...ummm. Some teachers were mean.

Autumn extends on the fact that not understanding her teachers nor peers was frustrating. She also discusses how teachers expected for her to figure things out on her own which prompted embarrassment and frustration. It is evident that Autumn felt torn between having to attend

school and putting up with the perception of a mean teacher. She continues to explain how this “would put me down” which helped me notice how this had not only affected her academically but emotionally as well when getting teary eyed as she was revealing her experience during the interview. It was obvious that her childhood experience in school was not a great one. Yet, it was also evident that her teacher was not the greatest role model either. For these reasons, Autumn felt protected under her own-made shield which was equivalent to that of being shy. Why read and or speak if she was going to be made fun of by her own teacher? In order to move through the motion of being ridiculed, she would hover over the situation with laughter. This laughter would help ease the moment of truth when having to say words that she didn’t know along with providing a given pronunciation to the English words she would enunciate in Spanish. Laughing at herself gave her the reassurance that she was at least trying when understanding that struggling was a big factor while trying to stay afloat in school. Autumn reminds us how capable she really is to accomplish her goals when she then mentions how “I just needed my own way of learning of how to learn these things.” By her having to laugh at herself when pronouncing words and taking shelter in her own past personality of being shy, gives way to perceiving how it is to survive in a teacher-ass bootcamp class. It was also frustrating for her to have parents who did not speak English, nor could they help with her with homework. As she later expresses, the scapegoat to dealing with her frustration was playing soccer.

As for Stormy, she was also shy and confused since she had a hard time understanding English. She had come to the United States from Mexico and similarly to Autumn, found the transition to English to be difficult as well as being afraid to getting bullied. Stormy recalls:

...I was very shy...um...Well I did um like my elementary school, I did it in Mexico so we moved to the United States when I was in 6th grade so the transitioning from like the

language was like a little bit hard for me.... Umm I was afraid of being bullied because I had an accent I didn't do good in school, like my grades were not good not because I was incompetent but because of the language barrier...um so that made me shy...um I had maybe like two friends, two very close friends that were in the same situation...um and we would help each other, um but I guess until I was in High School that is when we started more to participate in more school, um or in extracurricular activities.

Even though Stormy's data falls out of the theme, her experience and fear of being bullied, adds value to this study. Yet it is evident that she experienced fear in school when she mentions "I was afraid of being bullied because I had an accent" helping us understand the severity of her anguish. Just like Autumn, she prompts us to acknowledge that she is capable of learning when she explains that the reason that she didn't do good in school was not because she was "incompetent" but because she didn't know the English language. There is also another similarity with Autumn when revealing that she was shy due to the reasons already mentioned. Stormy's way of coping was relying on her two friends who were in a similar situation as her. It took years for her to feel accepted which didn't take place until High School when participating in extracurricular activities. It is clear that Stormy not only was ignored by her teachers like the rest of the participants, but also experienced the lack of English being a linguistic challenge. Stormy's identity was being challenged due to the transition from one country the another while understanding only her native language.

Red, on the other hand, was somewhat nervous even before we started recording. Her nervousness was clear when I noticed how she was fidgeting with her hands. She then proceeded to continue fidgeting now with a phone and a pen. She would at times get stuck on some words as she tried explaining "focused" and "distracted". In addition, she mentioned that she had a hard

time keeping focused. Yet, just like Autumn and Stormy, she also had encountered difficulties during her school years. She elaborated,

...when I was in high school, I was coming here from Mexico, so they put me in a Lucha class for ESL students so I was in that class, and I remember that I helped everyone in that class and [name] my teacher, she will put me as a role model student and she can do it... I went with the principal, and I speak with somebody like an assistant principal or something like that and that I wanted to transfer from school because in the other high school they help students, and they don't want to help me there.

Red couldn't be more frustrated. She was not only new to living in an adjacent country to hers, but was also new to adapting to a school with different norms of what she was already used to. Red was considered a "role model student" since her teacher would ask her to help others in class. The purpose of adding her to the ESL class at the high school was to help her with the transition. Because of language deficiencies with arriving in the United States, students are often placed in basic classes (Goldschmidt & Miller, 2005). She not only had come in from another country and had been trying to learn the language but was being intimidated by her principal and assistant principal. From Red's perspective, these two administrators were clearly missing the whole picture of effective leadership roles of principals who can improve student achievement in spite of "diverse" students' backgrounds (Heck, 1992). She perceived these administrators as being mean when avoiding offering help that she obviously needed. This is why it was a legitimate reason as to why she wanted to move to another school. Red felt ignored and wanted to be at a place where she would at least be acknowledged and comfortable.

In acting, we call that "pajareando" meaning that instead of focusing directly to the

camera, the eyes tend to wander off. Dreamy would often get off topic, so I would have to reel her back into the conversation by having to give some wait time yet having eye contact with her was very effective. Prior to the first interview, she was biting a nail. She looked tired and explained what she did throughout the day prior to me hitting the record button. Dreamy mentioned how shy she was but at the same time independent since she liked doing things on her own. Just like the participants already mentioned, Dreamy also struggled in school with those teachers that she perceived as mean. She says:

When I came here, *también*, [also] I was also very independent. Like I wouldn't really talk much during class, so it was only me. So, the teacher really wouldn't pay attention to me since I was like only quiet, and like only just focusing on my work. Mmm and I also wouldn't talk because I didn't know that much English, so it was only like doing whatever I could only like do... I think it was science and then the teacher it was a guy teacher. And told me to read in front of the classroom... I feel like everyone already knew I didn't know English... I just started crying and crying. I felt like he was exposing me.

As Dreamy sees it, the teachers didn't like her because she did not speak English. She begins by explaining how other than being independent, she was quiet and much to herself which blames this for not being paid attention to. Just like the rest of the participants, she wouldn't talk much since she didn't know English too well. She reflects upon "only doing whatever I could only like do" which can refer to someone who is trying to stay afloat while being limited to what he or she might know. Her way of having to deal with the situation was by staying quiet and just doing her work. This challenged her identity in the sense that she felt insecure for not speaking English as well as feeling ignored by her teacher. This seems to mirror Autumn, Stormy, and Red's experience of being ignored. In addition, just like Autumn, Dreamy explains how she was

embarrassed when being asked by her teacher to read in front of others. This pertains to the moment when she says that “I felt like he was exposing me” since her science teacher would make her read in front of the classroom when understanding that she didn’t know the language. This made her get emotional when she began to explain how she cried. Without a doubt, her reading identity was being challenged and is revealed when saying:

...I feel like, since I didn’t know English, the teachers wouldn’t like really really pay attention to me, so they would only like, I think that they would only focus on the people that would actually understand the class.

After stating this she got somewhat quiet and then continued with the rest of the interview. It was evident that she experienced being ignored by her own teachers. Dreamy also emphasized on how only those who knew the language were being paid attention to which made matters worse.

In regards to Agogó, she is the youngest participant. She sat very eloquently drinking water at her dining room table while making sure that her sibling would be quiet while she would interview. Throughout the interview, she muted Zoom a couple of times and looked to her right side in order to hush her younger brother. She then smiled and unmuted while apologizing. Agogó took her time speaking at her own pace and at times she would say words in Spanish during the interview. She mentions how her teacher was mean in elementary. Yet she moves on to explain the struggles that she had with being scared of attending school as well as to why. She elaborated:

... when I was in fifth grade, I remember that there was this teacher that was so scared to me and I remember that it affected me academically. And I was scared to go to school... Siento que me afectaba académicamente esta maestra que yo tenía en quinto. [I feel that it affected me academically this teacher that I had in fifth grade...the map

covering the states] I remember that I used to study across, and we had to learn the map.

El mapa de los estados and she was so scary, and she got mad, and she was so scared to go every morning and I didn't wanna go to school.

Agogó relates to her horrible experience at a young age of having a mean teacher as it is perceived in the data. This affected her academically which made her struggle. Agogó, after mentioning how she was affected, transitioned to her native Spanish language when reiterating about el mapa de los estados. [the map of the states]. By this point, Agogó's hype moment of wanting to share her experience, changed to that of a more somber one. Reminiscing on the experience of being in a mean teacher's fifth grade classroom caused for her to not only change her facial expression but her voice tone too. When approaching that moment of frustration, she switched to speaking Spanish. The fear was apparent when her voice was cracking when saying how "it affected me academically." The same tone was used when sharing how afraid she was when the teacher would get mad every morning. This was an obvious reason as to why she refused to go to school. Regardless of how dedicated she was as a student, she didn't like the way the teacher was treating her. Just like Red, she was intimidated, and fear was evident. Thanks to her lived experiences she refers to what kind of teacher she wants to be in the future which is the opposite of what she had.

The data can assert things about commonalities across in relationship with the interview when discussing how the teachers were with the participants. This factor gave way to the common struggles with teachers they perceived as mean, to being ignored, to the fear of speaking English. To this end, the participants' identities were challenged as a result of their past experiences. These experiences have given meaning to their sense of belonging which once achieved, can then be considered a product of having a close, responsive relationships with

others (Hirsh and Clark, 2019). According to Soreide (2007) “Identities are discursively and narratively constructed by the way people relate to the world and to other people” (p. 131). It is then clear that by building relationships with others can lend insight to relating to the exterior world as well as with people. This can then help build upon on individual identities. The following discusses the third theme from the first interview.

Student as Reluctant Science Learners

In interview one, four participants discussed how they did not like science. Stormy expresses how she found the subject to be difficult since the terminology was challenging. As for Red, she mentions how she just didn’t like science yet wouldn’t mind getting a refresher course on it. Dreamy for instance, mentions that thanks to her teacher who would make her read in front of her class, unmotivated her to like science, yet she further explains how an elementary project fixed this sentiment. Agogó simply said it was not her thing. As for participants, Autumn and Dreamy, led to say they liked science due to the participation and making projects.

Autumn was one of two participants who was not reluctant to science when growing up. When Autumn was asked if she liked science she said,

Uh yes, just because of the participation part like actual science lab part... It was kind of like a project like hands on and that to me was like helpful to learn. I feel that that's where it would really capture my attention and it would make me like get me into the lesson and That's the fun part! ... that would get me more engaged into the lesson to actually learn from it because like if we would just read a book kind of be like oh yea I will try to remember but when would actually or like songs, that they would sing songs...that's when I would remember the things and would remember the topics.

Autumn was not hesitant to answering right away that she did like science. In her response

she makes the connection to hands-on learning as an effective way to embrace science. First, she mentions the lab, then the project which was also important to her as she made these connections to the content while reiterating the hands-on-approach as an effective way of learning since it wasn't only grasping her attention but was also a way to understand the purpose of the lesson. This was a helpful way for her to retain information as well as purposefully having fun while learning science topics. As she explains, this strategy is better than using a book and also emphasizes how singing songs helped her to continue to make the connections in science. These educational understandings seem to have helped produce a stability for learning science. The support given through a hands-on approach helped Autumn appreciate a different style of learning other than the common content book reading. It was interesting to see that as Autumn discussed this, she gleamed with joy and kept moving on the sofa as she swayed her arms grasping air to keep talking about it. It was obvious that this was a significant moment in time for her.

On the contrary to Autumn, Stormy immediately answered that she did not like science. She discusses how she thinks science is a difficult subject. She elaborates:

...Umm like I remember in High school I had to learn the periodic table and I was like Oh my God that is a lot! [laughs] Umm I think it was more like umm the vocabulary, all the terms were a little bit difficult... well I think it depends also like on the teacher... I don't think they knew how to teach the subject. Like they made it seem like it was very interesting. Or maybe it was just me [giggles] that I was just having a hard time just understanding like all the terms.

Stormy had just arrived to the United States when she was placed in the 6th grade. It is understood that terms and or topics such as science taught at the secondary level become more rigorous and begin to move towards an appropriate grade level that will go more in depth. She

then mentions the periodic table that can then be understood as a more rigorous concept. To this end, given that Stormy was struggling in English, she extends on how the terminology was “a little bit difficult” for her. Lee & Fradd (1998) reminds us that having to know science “[i]nvolves making meaning of scientific knowledge and vocabulary” (p. 16). It was obvious that she did not have this scientific knowledge nor the vocabulary attainment as the authors are suggesting. Yet, Stormy moves towards another important aspect of mentioning the teacher and by saying that perhaps the content was unknown to them as educators. This prompts me to say that teachers are not appropriately learning and incorporating science into the curriculum. According to Bybee & Pruitt (2011) “Teaching requires multiple decisions made from moment to moment, all based on teachers’ understanding of the subject and skills of teaching and perceptions of students’ current knowledge, interests, attitudes, and motivations” (p. 186). Teachers either are not feeling confident in the subject matter, or they are not using innovative strategies and or activities to engage students. Thanks to these experiences, Stormy was reluctant to science.

Just like Stormy, Red did not like science either, yet she refers to taking an exam in college which she was surprised with the end results. She said,

...well, I don’t like science but for any reason on the test that we took on [name] I think it was for the not certified teacher the other one...from the department where the subject that I did very good was on science... well I don’t like science but that was a topic that I most got correct... I think just to take another course in science and what to know and what are the important subjects that they need to know.

It was interesting to listen to Red say this. She was convinced she didn’t like science and was reluctant to this subject yet had scored well on an exam that she needed to take.

Dreamy was also reluctant to science. She expressed that not only did she not know any science material but that she did not like science. As mentioned earlier she was unmotivated and much had to do with her science teacher. She also adds that she did not like going to that class. Yet, as we moved further into our interview, she discussed how this particular class had been at fault for her not liking science. She had much to thank her 5th grade class for helping her have different thoughts on the subject matter. Dreamy reminisces about her science class and her teacher and says,

... I hated that class...I feel like since I was in a group where all the group would only talk in English and interact in English and I was the only one that didn't really understand anything. I feel that he was only doing it on purpose...I remembered that in high school I loved chemistry... So, it didn't really damage the science, liking science, but I did like it didn't encourage me to go to that classroom. Just to that classroom. Just because of the teacher. How the teacher was... I did like science... Umm I like doing the projects!

Dreamy's quick response came loud and clear when saying, "I hated that class." She was making her point across that she indeed did not like science. By her recalling the moment of inclusion with all English speakers is when she relates how she mingled in an all English group when not understanding anything. There is blame on the teacher when saying "I feel that he was only doing it on purpose." Just like Autumn, Dreamy had been struggling with her English and teachers would make her read in front of others. Her science teacher happened to be one of them which then made science content irrelevant to her. She attributes this as to why she didn't want to go to class, and as mentioned, she hated it. She felt as if the teacher was making her life even more difficult by doing things "on purpose" for her to feel bad. Dreamy wants to make it clear that even though there were difficult moments in class, she didn't then, nor does she now despise

science. This is when she mentions that “it really didn’t damage the science.” Yet, as we moved further into our interview, she discusses how her 5th grade science project had much to do with liking science.

Agogó’s response was an immediate one when saying that she didn’t like science. Just like Stormy and Red, she was reluctant to liking science. She said,

Science it’s not my thing... science I don’t know why it’s so difficult to me I really like I enjoy what’s difficult I don’t know why but it’s difficult for me... I remember in high school... I was way behind with a science... I remember that I took chemistry in my senior year I was way behind I don’t know why...I do like to teach little kids I understand science for little kids...

When Agogó was asked if she liked science, she didn’t hesitate to respond that she did not like it and proceeded to referring to the subject as a “difficult” one. High School is then mentioned as a place to reminisce about Chemistry, her senior year, and extends on not knowing why she was behind in school with this particular subject. Just like Dreamy, she mentions liking Chemistry, but doesn’t seem to know why she was behind on it and when referring to Stormy, she says she doesn’t know why it was difficult. Throughout this interview, she mentions how she had worked as a substitute teacher and how she was familiar with working with all age groups. It is then that she emphasizes on wanting to become a pre-k teacher and is confident when mentioning that she wants to teach science to little kids only.

All participants except Autumn and Dreamy expressed more than a little reluctance toward science. The other three participants’ identity in this form of their reluctance, positioned them at odds with the notion of liking and even understanding science. To summarize the interview results, Dreamy first mentions that she does not like science thanks to a former teacher,

yet then further explains that due to her creating a 5th grade hands on project, she liked science. Autumn and Dreamy, then emphasize on the importance of the hands-on approach when learning science. It is clear that these two participants' teachers were engaging their students in real-world activities that prompted their enthusiasm as well as captivating their interest in science. To this end, we can refer to Valadez and Moineau (2010) when relating to using authentic, real-world activities that allow diverse learners to develop skills and knowledge in meaningful and practical ways. However, each of the participants explain as to why they were reluctant to science. Their vivid experiences help us understand the levels of frustration for some as well as the importance of teachers knowing their science content in order to help students embrace the subject without fear. There is a strong belief that preservice teachers must prepare through practices and serve as a foundation for shaping science identities (Kier & Lee, 2017, p. 208). For instance, having a teacher who is knowledgeable and experienced in the field is important. Relevant and innovative strategies are also important factors to consider in order for preservice teachers to understand and adhere by so that when they become teachers, they can teach their own students. Preservice Latina teachers should be adequately prepared to be great science teachers while understanding that they will have to teach students from diverse multicultural backgrounds. The following discusses the analysis of the first pedagogical arts-based activity that participants participated in for this study.

The data for the first interview has evidenced ways in which the participants' identities engaged in various challenges based on their past experiences which reveal a prevailing mood of frustration. Such challenge was having a sense of belonging. For instance, Autumn held on to playing soccer as a way to cope with her feelings while being in school. While the rest of the participants had a hard time finding a sense of belonging due not knowing the English language

and would then become shy. Some of the participants perceived their teachers as mean due the fact that teachers would make them read in front of others when knowing they couldn't. This led them to feeling ridiculed where there was an obvious sense of embarrassment which led them to be reluctant science learners. The role of identity was determined as to what they understood as well as how they were embracing change.

Letter-to-Self

Preservice teachers had the opportunity to relate to given scenarios and experience change through improvisations and try to make meaning of it in improvisations and science. The first performance lesson that focused on identity was *Letter-to-Self*. This activity pertained to sending a letter to their future selves. The letter was written to their future selves with the locus of control of the external and internal factors of becoming a teacher in ten years. The letter was then read by another classmate who took the letter and wrote back as the same person ten years in the future. Norris (2020) writes “Those involved create scenarios about a given topic, examine and analyze each other's work, often with the intent of performing for others who are external to the process.” (p.64). The following discusses the themes that emerged which pertain to Reflection to Practice and Pretending to Possibility as themes that emerged from this first arts-based activity, *Letter-to-Self*.

From Reflection to Practice

When I asked the participants what it was like creating a character of future-self, some reflected and said they wanted to keep a “positive mindset” and others mentioned “not to give up.” Keeping motivated was another important aspect to the letter while keeping driven to meet the goal of becoming a teacher to that of already being a good teacher. When individuals visualize themselves participating in activities skillfully, they can enhance a performance

(Bandura, 1986; Corbin, 1972; Feltz & Landers, 1983; Kazdin, 1978). The following gives insight to participant responses to the *Letter-to-Self* Activity 1:

Autumn's *Letter-to-Self*, refers to goals as well as to self-reminders. One of these reminders of having a positive mindset is a key standpoint. She was motivated and looked at experiences as learning opportunities. She said that it did not take much to write this letter since she knew what she wanted to write and was well connected to doing so since she was inspired to write to her future self. She also mentions that she knew she would be having good and bad experiences but that these would lead to other experiences, yet again, it was all about having a positive mindset. In her letter to her future-self she wrote,

...By the time you read this I hope you have reached every goal you have set for yourself, and if you haven't that's okay, there is still time don't worry. Life may be hard at times and the struggles you have overcome to get to where you are today, is what has made you the person you are. Always remember why you do what you do, do not ever lose sight of what started this beautiful journey. The mistakes, the downs, and the bad decisions are your lessons, so learn from them and keep growing. All of it is worth it...You are an amazing teacher and all though sometimes you might have some doubt take the time to remember the great things that you have for your students. Stay positive and smile, like you always have.

Autumn has given herself the opportunity to write to her future-self while embracing the possibility of a better outcome, while hoping to keep focused which soon will be worth it. She is in hope of change to have occurred yet gives herself the chance to not meet the given expectations due to life's sudden circumstances. She stays positive as she always has been yet mentioning how there are ups and downs in life and how these can help to grow. Autumn

reminds herself that all sacrifices are worth it and the end in mind is focusing on her students. Furthermore, her struggles have helped shape and form her identity. Yet, I couldn't stop but think of the conversations we had when sharing about her former teachers. According to Reeves (2018) "Helping teachers imagine alternative teacher identities should also be central to the work of those who educate them" (p.6). Autumn further reflects upon giving herself credit for being "an amazing teacher" while understanding that there has been "tough" times. I strongly believe that her former teachers could have supported her and helped move her forward with her education. One common factor amongst the themes was that the role of their identity was determining what they understood as well as how they were perceiving change.

Stormy commented that the performance activity that she was most proud of was *Letter-to-Self*. She mentions how this activity embraced ownership to where she could connect to being a teacher who she had been wanting for a long time. Stormy talks about the process of "already being a student" and by being persistent and driven, she had "gotten to be a teacher." Stormy was very emotional when talking about her *Letter- to-Self*. She wrote,

...I hope you are doing great. This is not just a letter, but a notebook of advice to you and a reminder of when you started this path. A big world is waiting for you, where you will meet people who are kind and not so kind. People who are cooperative and non-cooperative, and it's fine it's part of life. Remember how much you wished and prayed for being here today? Remember all those tears? Well, you haven't stopped crying that's for sure, but now it's different types of tears. Do you remember all the pressure, and frustration you went thru? Remember the sleepless nights you had? Remember going to bed at 3 in the morning and waking up at 6:30 am to take the kids to school. And even worse

when you had to study and one of the kids or sometimes both were sick, what a hassle. “I see you are smiling”. I know the pressure hasn’t stop, because now you feel the pressure of the principal, school staff and administrators. Now you have students who you are teaching, who they also look up to you. I know how much you are saying you can’t fail them or your grade level team. But I am here to remind you that it’s ok to ask for help...

Stormy exemplifies that her “letter” refers to that of a “notebook of advice.” Her advice pertains to her lived experiences that are full of vivid memories along with the expectations that she plans to comply with. She then reminds herself that many opportunities are waiting for her. She also promotes keen awareness for people she might meet along her path which should prompt her to stay vigilant. Stormy speaks from experience as she has encountered people who have been mean to her ever since childhood. She heavily relies on her faith and proceeds to reminisce on all of the tears due to the sacrifices she had to make. Stormy then shares how the emotions converted into tears that have now shifted to joy. The emotions continue to be expressed but now through a level of frustration where she explains her struggles as being a parent, and simply juggling life circumstances. These have never seemed to knock her down as well as her smile that never fades regardless of the situation. She values the pressure of homebound situations as well as those from her expectations from her administration that is now part of staging her path in education. Stormy then portrays happiness and acceptance since this is what she has always dreamed of having in her life. She proceeds to mention students who are the center of her focus and who now look up to her which proves to be the opposite of what she experienced in school as a child with her teachers. There is no past pattern to follow and now simply committed to serve her students and peers. Yet, it is evident that there has been a

transformation with Stormy. Morales (2018) believes there needs to be enough support for Latinas in order to be able to transform and adapt to an identity. Stormy's identity draws from a combination of her past experiences, feelings, and values which leads her to being much stronger while advocating for her students and her beliefs.

Red discusses in our interview that the *Letter-to-Self* was a way to conclude on things that she would want in the future as well as things that she needs to work on now. She mentions how she wants to be a good teacher, be in a good school, as well as have good coworkers. In her *Letter-to-Self*, she wrote:

...I hope that in all this time you feel completely fulfilled in all aspects of your life, whether physical, school, mental, emotional, and professional. Hopefully you are in the job you dreamed of living with many children, helping them to get their full potential by helping your colleagues to all grow every day more than you have ever stopped learning and that your desire to continue wanting to eat the world is still there. By this time, you must already have a family and a home I hope, and it is the one you have always dreamed of, or you are a few steps less to get your dogs to continue with you and you continue to dedicate time to yourself, do not forget about yourself. I will be very proud of the woman you become since you never gave up and you always fought hard to get where you are, don't give up, you know you can handle all of that and remember that every obstacle is one less step to reach your goal...

In Red's letter, there is nothing but good wishes to herself and simply hoping that she has accomplished all that she has ever dreamed of. Red discusses how her ability to dream big is a given. It is evident that having a family is a priority as well as the constant reminders that she comes first. For this reason, she must take care of herself. Red can also be referred to as a good

team player as well as someone who is furthering her education. When mentioning children and saying “helping them to get their full potential” can refer to the lack of help that she got when in school. There is a sense of commitment that she wants to attain and move by in order to give back to her own students. Red then proceeds to the understanding that teamwork is better and adheres by working alongside her own peers in the field. When mentioning “you have never stopped learning” can be interpreted as to her lived experiences that have made the person she is today. It is also apparent that Red wants a family and includes her furry pets as part of it. She believes in putting yourself first in order to have mental stability when she refers to “dedicate time to yourself, don’t forget about yourself.” Red reminds herself of the power of never giving up while imploring on what she’s been able to handle while striving for what she wants. Red also understands that in order to reach and attain goals, there must be obstacles along the way. It is evident that teachers’ role identity development relies on ways in which a teacher envisions them or herself by fulfilling the role of a teacher through practice (Forbes and Davis, 2008). The effects of her identity range from being self-empowered to self-encouragement. Red has not only reflected upon her life experiences but moves to her expectations on what she wants to put to practice as a teacher.

Dreamy discusses how writing this *Letter-to-Self* is not hard since she has always had a positive image for her future self. She mentions how the letter makes her realize how far she has come and staying true to her goal of being a teacher. Dreamy says that it is not hard for her to imagine her classroom and students. In her *Letter-to-Self* she writes,

...I’m so proud of what you have accomplished in the last couple of years. Look at you! Remember when you wanted to drop out because having a kid, a full-time job, and five classes was so hard? Well, I’m proud of you. I just want to let you know that it was hard

to understand how certain things in life happen and how they end up being. Now you have your class full of students who love the way you teach and how you treat them. They feel safe and comfortable with you, and I just want to say that you deserve all of this. You worked so hard to get there and you accomplished it without giving up. It is nice having the job that you worked so hard to get. Right! And even though you changed like three majors and graduated last from all your friends you did it and you kept on going while everyone told you to stop changing majors. I'm so happy you chose this career, and I could not be so proud. I'm very happy to see you happy and I hope you continue to be happy...

Dreamy is now a proud teacher who has come across some life circumstances that at one point, made her doubt herself. Becoming a parent at a young age, as well as having to second guess herself about dropping out of school while working a full-time job and registered for full five classes was not easy. The pressure was real, yet she did it. Dreamy reminisces on how she got to "understand how certain things in life happen and how they end up being." It is evident that at the time that she encountered obstacles, she didn't believe there would be a solution or a good outcome. Yet, even though her past is difficult, she embraces change and welcomes what she deserves as to what she has now. Dreamy is proud when saying that "they feel safe and comfortable with you" since she understands that her space is a safe haven as well as her nurturing through care is important as well. She reiterates that her career was the right path to take. Dreamy reassures herself that it was worth the sacrifice in order to now redeem the benefits of being persistent in what she always wanted. She shows a side of her that enables instability with choices being made along her life timeline. This is evident when she discusses the "three majors" as well as the advice not taken from her peers at the time. Due to her hard work,

dedication, and drive, she now elates through happiness. I concur with the fact that learning through drama helps to initiate ideas, give life to those ideas, and prompt critical reflections (Greenwood, 2012). Thanks to the *Letter-to-Self*, Dreamy has achieved this not only by reflecting upon her past, but by providing a detailed description of the teacher that she has now become. There is an identity construction which is a productive way to connect to novice teachers' own learning goals while understanding that teacher identity refers to identification as well as negotiation in order to create openings for new learning (Horn et al., 2008, p. 70). Dreamy has not only negotiated with her past and made way to welcome a positive change, but her identity has now shifted to being a happy and competent teacher.

Just like Autumn and Dreamy, Agogó relates how doing this activity of writing the *Letter- to-Self* was not hard. She adds that this activity was a reassurance of what she wanted and how she could see herself in the near future as a sense of confidence. Her *Letter-to-Self* reads,

...I am sure that at this point you're already a certified teacher, married, with kids and a beautiful house. At least those are my goals right now, I know that it's been hard to be where you are right now since there have been lots of challenges, I know that you are proud of yourself and so am I. It has been a hard journey and I want you to remember everything that you accomplished and be proud of your effort, every small detail matters every challenge. Do you remember when you felt lost because you came from another country and you had to learn a different language even when you had lots of resources it was hard to graduate from high school, right now you have your associates and you wanted more so you are trying to get your certification to be a teacher! I know that where you are you are already a kindergarten teacher, and you are happy with

your job...I am sure that you are the teacher that you always wanted to be, I want you to have in mind every teacher that inspired you to be on this path and all the passion that they transmitted to you, remember that every student is going to remember so keep in mind how you want to be remembered. It is going to be hard sometimes because it is a lot of work, and it takes time, but it is worth it! Always keep motivated.

In this letter, Agogó is already a kindergarten teacher, married with children while living in a beautiful home. These personal goals sustain and are a foundation of the hardships and challenges that she has. She reiterates that she has worked hard and that the sacrifices have been worth it. She mentions being proud of her accomplishments and specifies the difficulties of learning not only a new language, but also the fact of transitioning to a new country. There is also a reminder of “every detail matters every challenge” meaning her sacrifices have not been in vain. Agogó refers to the difficult time when finishing high school, yet her pride is perceived when explaining she earned an Associate’s degree and now working towards a teacher certification. Agogó reminds us again that she is now a happy kindergarten teacher of who she thanks those along the way. These people whom she acknowledges are those teachers that inspired her who at one point shared their passion in teaching. She then relates to this as a way to want to also be remembered by her students and reinstates that she needs to be patient and to keep motivated. Her past experiences have given way to who she is now as a teacher. Noonan (2018) asserts that “An identity lens is promising given its attention to individual learners, including their past experiences and guiding beliefs and how they use them as filters through which to interpret their learning and with which to justify present and potential actions” (p. 1). Agogó’s new identity of being a grateful teacher is now evident. Her lived experiences have been evident through the process of becoming of her identity based on her beliefs and values.

From Pretending to Possibility

As part of the *Letter-to-Self* activity, participants had an opportunity to respond to another peer while focusing on their future-selves. These interactions allow for peers to participate and share their practices while understanding that student identities are co-constructed and maintained (Avila, 2019). This can relate to when the participants wrote to their future-selves and had constructed a different identity as to before. The following reveals the participants' responses to *Letter-to-Self* ten years in the future.

Autumn was very proactive and excited to share how her kindergarten class was doing. She also expressed on the importance of family as well as their given support. She wrote,

At this very moment you are just as happy as you were 10 years ago. You have worked so hard to become the person you are right now! Life can be full of craziness, but you got this! This letter will find you that an amazing time in your life, I am writing this to you so that you can remember to that you're human and to take a breather. You are exactly where you wanted to be, teaching that kindergarten class you've always wanted to teach. You have amazing students, and the students look up to you and loving have you as their teacher. They love you so much and you love them like your own. You have had some ups and downs, but you have amazing support from your family (hubby, kids, mom, and sisters) Family is everything, so don't forget to make time for them, the hubby has always been the most supporting person in your life so don't forget to give him the time he deserves and the kids too, but they grow so fast. But most importantly don't forget to give yourself the time you deserve...

In Autumn's response to *Letter-to-Self*, she already is a kindergarten teacher, one who she always wanted to be. This connects to teacher identity which is the practice of becoming and being a teacher (Palmer, 1998). Even though things might be overwhelming, she reminds herself that there must be given moments to pause and enjoy life. She proceeds to uplift herself by again by the reminder that this is exactly where she has always wanted to be; a kindergarten teacher with a class full of "amazing students" who look up to her while appreciating her as a teacher. This is the opposite of what she encountered as a child whose teachers would ridicule her while asking her to read in front of others. The nurturing aspect becomes evident when she says that "you love them like your own." Her vision of education is child-centered when mentioning that she is teaching a kindergarten class, for praising her students and recognizing that her students love her. She mentions how her family has been her support yet reminds herself that she must make time for them and herself too. She relates to taking the needed time to enjoy life when saying "give the time you deserve." It is evident that as an individual who has juggled motherhood, being a wife, and full-time student has not been easy. Yet, pretending to be teacher has enabled to possibilities to being that great kindergarten teacher. The *Letter-to-Self* has helped Autumn engage in moments of reenactment by having a dialog with her future-self while being portrayed as a teacher when also having "amazing students." Bhukhanwala et al. (2017), suggest "through an embodied theatrical dialog, participants will be able to make their dilemmas visible, be able to reflect on their beliefs, their thoughts, their feelings as well as their assumptions" (p. 623). It is evident that there has been a change in Autumn's identity due to her experiences that allowed her to embrace a positive change to being moved from pretending to being a possible competent kindergarten teacher based on her beliefs.

Stormy was very emotional throughout the *Letter-to-Self* activity. She mentions how at times it was difficult for her to continue reflecting. She would have to pause, cry, then continue to write. For her response to *Letter- to-Self* she elaborated,

...Remember the things I wished for? The things I cried for. Well, now I can say I did it! I am extremely proud of myself! I am proud of myself for not giving up. I won't lie, it was hard, but what matters the most is that it was done. All sacrifices have its rewards. I know I was upset back then seeing all my peers graduating from college, some of them getting married and starting a family of their own, but now that I look back, none of that matters now. I can say I am happy with myself. I am happy because I have accomplished my goals. I have a career now, and I am exactly where I wanted to be ten years ago. I have the best students, and all the support from my colleagues and administrators. I have learned to love and appreciate life to the fullest, especially the hard times that we lived during the pandemic. I am not afraid of anything, because I know everything is possible and I can always ask for help...

In Stormy's response letter, she acknowledges the sacrifices that it took to become the teacher that she already is. Even though this letter to future-self took an emotional toll on her, she extends on how proud she is for never giving up and for stating how happy she is now. Her career is in motion, she has the best students, as well as mentions how there is existing support from her colleagues and administrators. Her identity as a teacher is being valued for her skills and support from her peers and superiors. Indeed, Stormy has become a competent teacher. By her pretending to be the teacher with her "best students", colleagues and administrators, have given her the possibility to be a competent teacher. Even though her identity was challenged in the past, she managed to overcome these past experiences and became relevant through her

beliefs and values as an individual. These past experiences can refer to Danielewicz (2001) when saying that “[i]dentities are the ways we relate to and distinguish individuals and groups in their social relations with other individuals or groups” (p.10). Stormy’s character writing experience also can reflect on how characters can be engaging if they are complex (Malej et al., 2017). This complexity pertains to that of Stormy’s past in connection with her transition when coming to the United States. She has now become who she always wanted to be...a competent teacher.

Red explains and shares her accomplishment that has led her to have things she has always wished for. She relates to finishing school after four years then proceeds to explain about her job. Her dream job for starters, has been one where she has encountered difficulties, yet expresses there are no regrets. She writes,

...having the opportunity to look back at myself to where I used to stand then till now, it is a huge difference I can’t start off my saying I accomplished my goal of graduating from college after 4 years with my bachelors and from there on I have the opportunity of being part of an internship that led me to get this great job. My dream job that I always wanted to become a great teacher I have a lot of ups and downs with this career but I can say that I don’t regret anything this makes me truly happy. Do you remember that needy cat our sweet and playful Tony he is still by our side. Tony was there through all those hardworking nights and days. We went from a small apartment to a bigger and beautiful house where Tony can play freely, I am really grateful for him. I also forgot to mention that we have a new character in our life’s which is Juan Alberto he is a teacher that I meet at a friend’s gathering and started dating for the past 3 years and has already proposed and that’s where we are standing at now to our new chapter in life. I feel thankful looking back to the letter you wrote to me 10 years ago it was a huge motivation

and it was all worth it...

Red's response reflects on accomplishments of graduating college, getting an internship, and having a great job. On a personal level, she comments how she is already engaged to a teacher and how appreciative she is for having a home and keeping her same cat who was also an important support during her studies. Red describes both aspects of the personal and professional identity to where she infers that everything that she has worked hard for, she has accomplished. There is a sense of pretending when she refers to her already graduating from a four year college with a bachelor's degree as well as being an intern at her new job site. The possibilities are endless and implores on how she "always wanted to become a great teacher." Red is reflecting upon her ability to becoming a competent teacher. According to Beauchamp & Thomas (2009) "[r]eflection is a factor in the shaping of identity" (p. 182). This seems to connect to what Palmer says about teacher identity. According to Palmer (1998) "Identity and integrity have as much to do with our shadowing and limits, our wounds and fears, as with our strengths and potentials" (p. 13). This quote can easily relate to Red since she not only has a high level of enthusiasm and confidence, but it is evident that Red has been a very strong and determined individual that has helped shape her identity.

One of Dreamy's characteristics is that she is always grateful. She mentions her experiences being those of which she is appreciative for. Lesson planning is something that she is excited about because these are dedicated to her students. Her attitude is a very positive one and inspires hope. Dreamy says,

...It's me from 10 years in the future! Guess where I'm at? At home creating a lesson plan for my students! I'm so grateful for all the experiences I've had that I can tell you that there is nothing to worry about. You completed all the adventures, all the plans you

had... You are waiting for your husband to get home and you are living a magical lovely life. I'm proud of you and your past self. All the experiences you've had, yeah be thankful for those. You have become a great person and you are still becoming the best version of you. In the end you become everything you wanted to be and you are living the life of your dreams with your partner by your side.

Other than greeting herself ten years from now, Dreamy relates her excitement by sharing that she is working on her lesson plan primarily made for her students. She exemplifies on her gratitude and reassures calmness as well as a sense of relief to finally say "there is nothing to work about." In Dreamy's response, she relates to her accomplishments, her preparation of lesson plans, as well as feeling positive on a personal level since she is now married. She thanks her experiences as well as praising herself for all that she has been through which her identity builds meaning for her. Dreamy also acknowledges her past as a way to helping her build her future which is now a good one. In her response, she emphasizes on "you are still becoming the best version of you." Meaning, that she is still in the process of becoming. She is enjoying the process of change and knows she still has to keep moving forward. The pretention stage relates to her imagining herself ten years in the future and tapping on the possibilities of already becoming a competent teacher. One who has worked very hard in reassuring the success of her accomplishments. Even though Dreamy has always been engaged through various emotions, which will be discovered throughout the rest of the interviews, she is clear with meeting her goals. According to Beauchamp and Thomas (2009) "Emotion may alter a teacher's identity in relation to the profession but may also be altered by aspects of the profession." Dreamy's identity is evidenced by her experiences and determination.

Agogó also expresses her appreciation for all that she has accomplished and for her success. She shows gratitude towards the opportunity of being a teacher and reveals how it has been one of the best experiences. She writes,

... Like you said ten years ago, you did have your reward after all the stress and the worries that you have been through, let me tell you that there was more good times and lessons that bad times, life have been great, and it has been an amazing experience. It wasn't easy but we never gave up and all the qualities that you described (responsible, smiley, funny and positive) have been key for our success, like you said it was people that wasn't that nice, but we managed to stay the same and be true to ourselves...

Teaching has been one of the best experiences and let me tell you that we enjoy waking up every day because we do what we love, bilingual was the right choice, and you are one of the best teachers there is a lot of potential that we still have to give. Remember to always try your best and you will pull through, I promise.

Agogó doesn't deny the hardships in order to have gotten to where she is now yet mentions her qualities as one who is "responsible, smiley, funny, and positive." She also doesn't deny the fact that along the way, she encountered people who were not so nice either, yet her devotion to her values stood strong. Agogó reaffirms that teaching is the best experience. She also reveals what is important to her as a person and as a teacher. She reiterates that choosing to be a teacher was the best choice and proceeds to acknowledge herself as one of the best teachers while mentioning that she still has more to offer. This responsive letter gave way for Agogó to relate to further analyzing herself while meeting the end goal in mind of becoming a competent teacher. Engaging in language practices such as conversing, analyzing, or writing reports, can

shape an individual's identity (Danielewicz, 2001). Agogó's identity is evidenced through the given possibilities that have led to her happiness and accomplishments.

Participants were given the opportunity to learn through a different focal lens that promoted curiosity through creative practices. Davies et al. (2013) assert that ongoing creative practices of everyday pedagogy are necessary. To this end, participants used their imagination to create, pretend, and implore on their creativity. I draw from Nutbrown (2013) who stands from a conceptualized approach to that of Saldaña (2003) who exemplifies significant moments presented through given voices and various scenes in arts form in order to understand curriculum and pedagogy through arts-based learning. Dennis (2009) then suggests that there is a “[d]emand in improvisation, to be in the moment to notice and respond to what emerges, has provided a foundation in the writing” (p. 237). I notice that in their response letters, the participants reveal a shift in their thinking to being competent teachers. It is evident that from pretending, it led to eminent possibilities. It is also evident that there is existing happiness, sense of accomplishments, and taking pride for having a better life one of which they yearned before in their first letter. According to Reeves (2018) when teachers either novice or experienced, can be invited to imagine new identity possibilities through that of innovative arts-based activities that can relate to visual, movement-based, poetic, or other expressive media. The goal of the Letters-to-Self activity was to allow students to improvise possibilities. The following elaborates on Interview two in which participants discussed their experience of activities aimed at connecting past, present and future selves within the context of possible teacher identities and the themes that emerged.

The Power of Improvisation Through Movement in Identities

Here I present data from my participant observation of the improvisational activities as well as the interview data regarding these activities from interview two and three. So first I am going to talk about the *Pulls and Pulling through Zoom* and the interview data then I am going to talk about the *Fourth Wall* and the interview data. Interview two questions center on the *letter-to-future-self* activity and adds connections to emerging teacher identity. There were four that invited participants to respond based on their engagement with the creating of a future-self character, giving advice to their past self/kid self-growing up, their letter that was written in Activity 1, asking about how they felt about class activities, as well as improvisations to what they did learn and how could these be improved. The questions can be found in Appendix D. After Interview one and *Letter-to-Self*, while the themes of Teacher as Mean and Student as Reluctant to Science that emerged in interview one were still salient in terms of teacher identity. Interwoven very importantly, things took a different turn in interview two. Participants were greeted through Zoom as an informal conversation went on asking how their day was. The first question led participants to reminisce on what it felt like creating a character of future self. This particular question threaded to Activity 1 which was when they had to write a letter to self in the future. All participants responded that it was motivating and exciting to create a character of future self which led them to have a feel of belonging. Something else that they had in common was that they all wanted to be good and competent teachers in the future. Yet Stormy, commented that at first, it was somewhat difficult since she got very emotional when creating her character. She had thought about all of the hardships and how everything had fallen into place with much sacrifice. This participant also mentions how she had to pause a couple of times to proceed with creating the character. I made an important connection that reminded me of past acting exercises using the Stanislavski Method where one lives in the moment when creating

characters and recalls an event that was significant. This memory recollection was then tied to Stormy's reaction, as if I would have asked her to imagine vivid and relevant experiences with much detail as possible in order to share her raw experience of the formation of her character (Bilgrave and Deluty, 2004). The participants overall, had a positive image of themselves and were competent as teachers in their letters.

Participants had much advice to give themselves when asked what would be the key take away when writing a letter to their past self. It was interesting to see how all participants had noted that they "gotta keep going", "keep a positive mindset", "never give up" as well as to always believe in themselves. One participant's response stood out when she said that the class activities "helped us think more in depth of what we want, what we are doing, and where we are going." The themes that emerged according to the data from interview two pertain to Student as Motivated Teacher, Student as Professional and Personal Growth, and Student as Paying it Forward. Here I talk about these themes which seem to rearticulate in many ways much of what happened in interview 1 with some interesting departures. For this second interview, it was interesting to see how participants had different settings from where they were interviewing from. This was the case for Stormy and Dreamy who had a hard time with their emotions, which I found myself having to pause in order to keep interviewing. One of the two was literally bawling which we had to take some time to simply wait until the participant was ready to proceed with the interview. Interview two took place one week after Activity 1 *Letter-to-Self*. The following elaborates on each theme along with the supporting data.

Student as Motivated Teacher

Autumn was at home sitting on her couch next to her decorated Christmas tree as she was sipping from her coffee. She was very excited when referring to her future self-character. She

emphasized how she knew how to create this character with much detail. When asked what it was like creating a character to future self she said,

Oh, I thought it felt good. I was excited. I can't wait to see what I expected now to see if it is going to have those same outcomes or if I am going to find myself in a different spot. And hopefully I can reach what I want now in the future. So, it felt good!... I think that like it's a good thing to think like in a positive way...you gotta think like it's a new day, you gotta keep going, so it's all about how you set a positive mindset...In my opinion it was easy to write since I know what I want, and I know what I can do and I have goals, and I know the struggles that I gone through, school work, and personal life and all of that stuff. So, it was easy for me to like write and say hey, pick your head and keep going, this is what you have achieved. So hopefully I can get there.

It is evident that Autumn is motivated and eager to meet her goals as a teacher. As she was responding to the question, her facial features were expressing happiness, yet she repeated more than once that this had been easy for her to do. Throughout her explanation of how she came up with the development of her character, Autumn was motivated and eager to let me know how she felt. Yet, as we move forward, she mentions how on a personal aspect, she hopes to meet her goal. She emphasizes on how she could envision herself as a competent teacher while reassuring me that she wants to have a positive impact on her future students. This demonstrates ways in which her identity built meaning for Autumn. She then moves into being confident and reassures us that her letter to future-self was easy to write simply because she knew what she wanted. She mentions how she "can hopefully get there" which is interpreted as moving forward with meeting the goal of becoming a teacher. According to Lee (2015), drama based pedagogies

can promote a process-oriented approach to teaching and learning in which students embody transformation from current to future selves or other possible selves. It is then that Autumn not only has embodied the character of becoming a teacher transforming from her current-self to a future educator with specific characteristics but has sculpted this given character very well.

In contrast, Stormy had to pause a couple of times to compose herself since she explained that her *letter-to-self* was an emotional one to write. She was sitting at her table at home yet teary eyed when I asked this first question which we had to pause for her to pull herself together. We did not log off from Zoom, instead, wait time took place during the interview. Once she was able to continue, she expressed that what often came to her mind were all of the hardships that she had to encounter as well as the times she had to sacrifice time of being with her children. Nonetheless, she emphasized what her goal was which was to finish school and be a competent educator. This brought a smile to her face and her corporal expression now was somewhat different as to when we started. She was sitting upright with both hands on her table ready to proceed to the next questions. When asked about what it was like creating a character about her future-self she said,

It was a little bit emotional! [teary eyed]...because I hope that I will be done in ten years...so that is an accomplishment already...looking back and seeing that I have already my degree...that's already an accomplishment. So yes, writing to myself was a little bit emotional. I was happy, excited...I can say now I am working on my Masters. Or I have completed my masters because that is also one of my accomplishments. Like I want to continue...I had to like vent...I had to stop. And process everything...I am very close of completing this accomplishment. So yes. It was emotional.

Stormy is hopeful in finishing her degree in ten years and mentions how she is happy, excited, and how she acknowledges the fact that getting a degree in ten years is already an accomplishment. This relates to motivation since she has transitioned to being positive and well accomplished. Motivation then becomes a critical aspect of teaching and learning (Cardelle-Elawar and Nevin, 2003, p. 48). She refers to the letter as something that caused her to be emotional. Stormy's identity, in the form of these understandings leads her to the notion of being a teacher. She then had to compose in order to continue when she says "I had to like vent." She has embellished a character of her own-self to where she is now competent and accomplished. Booth and Hachuya (2004) suggest that arts-based strategies as implemented in undergraduate teacher education were useful in building pedagogical content knowledge as well as in building instructional skill. Stormy's identity has overcome the challenges and has embraced her goals in becoming a motivating teacher.

Dreamy talks about how easy it was for her to create her character in her letter to future-self. She explains how she has always had a positive image of her future-self. Dreamy says,

I was, it actually made me realize what I have been through as far as where I am at now... I don't think it was hard because I have a positive image of my future-self... And I already know that I do want to be a teacher. Like I do want to help the students, like I am already set that I do want to be a teacher, I already want to be there for the students...I was thanking myself first and thanking all my lessons like thanking what I have been through, the people that I have known thanking them, then imagining myself as my future self like oh my God can you believe that you are already here? Like you already have the class, you already have the students, you already in the job and like over there in the past

when you thought that it was so hard, like when am I going to finish, but well, I have always tried to have like a positive image of myself.

Just as Autumn, Dreamy did not have any difficulties writing her letter to future-self. Instead, she is confident when she says that she has “a positive image of my future-self.” Other than staying positive, she is motivated to becoming a teacher. She moves to discuss how she wants to be there for the students. As you will recognize in the interviews to come, Dreamy tends to always be grateful for what has happened to her in the past, as well as in present time and future. She thanks what she “has been through” as well as the people that she has “known.” She proceeds to “imagining” herself as that teacher that she has always wanting to be in a class filled with students along with a steady job. Yet she reminisces about the past and is somewhat in awe for all that she has accomplished. Again, just like Autumn, she also has a positive mindset since they both were motivated to create their character of future-to-self without hesitation. The motivation is evident by Dreamy becoming the competent teacher she had always envisioned as well as for being so positive. This positivity also goes hand in hand to her being appreciative with everything including her past which motivates her to be better in all she does. It is evident that by creating the character of future-self can align to pedagogy. The arts-based pedagogy supports preservice teachers while constructing the understanding of pedagogy, the recognition of the place of identity, in teaching, and the appreciation for differentiated learning (Dixon & Senior, 2009, p. 3). Dreamy has not only recognized the importance of being the competent teacher but linked her teaching integrity with caring about her future students while being a motivated in a well sought out classroom.

Red was at the mall sitting on one of them massage chairs when we were scheduled for the second interview. I mentioned how we could reschedule for a later date, but she proceeded to

let me know “all was good” and that we could continue. She was adamant and made sure to let me know that “now is the best time.” Her nail biting, which is a norm, was part of her corporal features for that day. When asked what it was like creating a character of future-self she was to the point. She said,

Well, I think it helped me to conclude on the things that I want to have for to be in the future and like realize that the things I need to do right now to get into that mode... Like I want to be a good teacher, I want to work in a good school with good coworkers, I want to have a family, a house, I think I want a little bit of everything. I realize that I want a lot of things and I know that it's hard to get but I like to get that.

Red seemed focused here. Her response is central of teacher identity that talks about belonging and being motivated by wanting to be a good teacher and work in a good school. She is convinced of what she wants which includes being a good educator who works in a “good school” with “good coworkers.” Red is also family oriented and writes how she “wants to have a family, a house, I think I want a little bit of everything.” She is prioritizing from family first, then a home, and basically proceeds to mentioning wanting a “bit of everything.” Her goals are aligned to that of working hard to what she wants. She understands that good things come with hard work that will pay off later in time. This interview soon became more of a conversation where she was not even acknowledging her surrounding as people kept passing by while Christmas shopping. The arts-based pedagogical activity of creating a character of future-self can concur with Ogden et al. (2010). According to Ogden et al. (2010) the “authentic arts-based learning is derived from the blending of authentic learning theories and arts-informed pedagogy” (p. 370). There is “authentic arts-based learning” taking place since Red developed her own future-self character which led her to become a motivated teacher who was well convinced of

what she wanted. Red's identity has now taken a shift to becoming a competent teacher based on her own motivation.

Similar to Autumn and Red, Agogó also thought it was easy to write to her future-self. During our first interview, Agogó expressed how she had fallen behind once in school to where she wasn't able to graduate. Ever since then, she has been focused on school with good grades attentive to meeting her goals. When meeting for this second interview, she was in the best of spirits smiling showing her braces off ready to interview. Agogó said,

I think I have it very clear what I want and...the letter was easy for me because I have in mind what my goals are and... It was easy it wasn't hard...so I wrote like if I had already completed it... it was just thinking what I want how I want to be in the future and imagine that it already happened and that I was grateful for... I think I was trying to make possible of what I want a set goals that I know that I can complete and that's why I was like I knew that I was going to make them true..

Agogó was very thoughtful at first prior to answering the first question. Yet, one characteristic from her is that once she gets her ideas flowing, she smiles, looks at the camera and starts conversing. In this first question, she makes sure to refer to goals that she could "complete" while relying on a dream that had already come true. She is clear and knows what her goals are while being convinced all along of who and what she wants to be. Just as Dreamy, not only is she grateful, but her sense of motivation is relevant to that of fulfilling her goal of becoming a teacher. Again, the power of convincement through motivation is evident when she says she "can complete" her goals while making "them true." It is then obvious that she wants to finish and wants to fulfill her goals.

The comments from the participants came from the questions from interview two based on their experiences that delved into the arts-based activity 1. In interview two, participants have similar views when sharing the process of how they created their characters of future-selves and they all could see themselves being competent teachers as their future-selves. Four out of five participants did not hesitate to write their letter to future-self while one participant did since she was too emotional. Yet, Maslej et al. (2017) reminds us that “characters may also be engaging if they are complex” (p. 488). Participants had many points of departure when discussing the positive aspects when creating their characters. I concur with Scott et al. (2001) when claiming that “Improvisations in character allow actors to understand their characters more fully and create a richer past and personal history for their roles” (p. 295). Moreover, it was interesting to hear how the participant’s responses were similar when they were asked how Activity 1 *Letter-to- Self* could be improved along with other improvisations. A suggestion was made for writing both a past and future-to-self letter then comparing it to see where it meets. Another participant added that instead of responding to a peer, respond to oneself. There is an impact on identity in the form of how the participants see themselves as motivated teachers.

Student as Professional and Personal Growth

When participants in this study created characters of their future-self, many had it clear as to what they wanted to create and write. Interview two refers to questions in reference of creating a character of future-self. Four out of five participants moved forward to writing their letter to future-self while the fifth participant became engaged with deeper feelings which hindered her pace to some point. Participants shared how they connected to the creating of their characters and how they became competent teachers that with much dedication and sacrifice met their goals. This connecting bridge of imagination can be a powerful pedagogical tool. As a former actress

who engaged in various acting exercises, I can attest to that of when creating a character to believe and pretend in the moment redeems confidence. Student as Professional and Personal Growth was a theme that flourished throughout the data.

Autumn is goal-oriented and has a good head on her shoulders. Her struggles and lived experiences have made her who she is today. Ella como mis otras participantes, es una mujer Latina muy chingona [Just like my other participants, she is a bad ass Latina]. On a professional level, she is convinced of who she wants and needs to be in the future. On a personal level, she stays positive regardless of her struggles. She writes,

... I can't wait to see what I expected now to see if it is going to have those same outcomes or if I am going to find myself in a different spot. And hopefully I can reach what I want now in the future. So it felt good!... I am going to become a teacher and I don't' think I know!

Autumn begins by feeling anxious to know if she will accomplish the outcomes she has sought for or if she will be in a different place. She discusses how good it feels and proceeds to being positive which is one of her strong characteristics. She shifts from doubt to being spontaneous to believing that she will be a competent teacher. This then aligns to her professional identity. According to Zaunbrechner (2011) "spontaneity is the primary feature of an improvisation act" (p. 50). This helped set the tone for what comes next with the improvisational activities which all ties together.

On the other hand, Stormy had many doubts. She didn't hesitate to ask herself many questions and reflect on them. Yet, along her reflecting, she becomes confident. The following displays her questions which changed tone when she got emotional. It is evident that the *letter-to-self* instilled personal growth through mode of deep reflections. She said,

...I started thinking and I started probably doubting myself. Am I going to be good at teaching? Am I in the right path? I mean I started doubting myself...And what if I don't get to that level? What if I am not a great teacher? What if I am not good at this? ...Right now, I feel more confident. I feel that I can do this. And I guess that that part of the letter was me doubting...what if I get stuck? What if I have a stress breakdown or ...I know the students, especially the little ones, they look at their teacher as something big. Like a mother. And I think I started thinking what if I don't meet those expectations? What is going to happen? What if the students are not as excited to come to my classroom? I don't want them to be missing school just because they are not happy with the teacher. So, I think what I meant in the letter is that it is ok to ask for help...when I started typing I said -uh this is very fun [cracky voice] this is emotional!...Like it helped me to just think, go back it's like wow let me sit for a while and think. Like let me go back and process everything like wow.

As we can see, Stormy has reflected and has many questions of which she is not only asking herself if she gets "stuck" or if she has a "stress breakdown." She also realizes her role will not only be that of a teacher but of a mother as well. Yet, she continues to question herself in case she doesn't meet the expectations nor if students don't become excited to attend her classroom. She instills on attendance and refers to coinciding with the fact that "it is ok to ask for help." Stormy went from strong personal growth of reflection to that of preparing for the professional aspect of teaching. In between, she's had to process everything. I was caught by surprise when she got emotional more than once as I asked what advice she would give herself as a student and as a past-student science-self. According to Konjin (2000) "The portrayal of emotions is a critical component of acting and also seems to be one of the most difficult and

complex tasks of the actor” (p. 3). It is evident that Stormy has not encountered doubts as well as interfering in some way with her true intentions of portraying her future-self at first. She moves to becoming emotional due to her commitment of character which had deep connections to a past of whom she did not want to replicate. Yet, Stormy’s willingness and desire helped build trust to keep moving forward while displaying a strong sense of professional and personal growth in her identity.

Dreamy always had a unique way of answering her questions. She often starts on task of tying her responses to the specific question but tends to wonder off to other ideas which I have to reel her back in to responding to the question that is being asked. In this second interview, this happens a lot. Even though at times Dreamy has trouble trying to explain herself to selecting her words, she takes a step further on a personal aspect as well as being positive of becoming a teacher. She said,

...I have always tried to have like a positive image of myself like...I know that my future is going to be positive. Like I don’t know how to explain it...[crying] Wait. Let me cry a little bit. [crying even more]...I do want to help the students, like I am already set that I do want to be a teacher, I already want to be there for the students. So, it was not hard for me to imagine myself as a teacher, having the classroom, like having the students, it was not hard for me.

Dreamy got very emotional when responding to question two which asked if she would write a letter to her past-self/kid-self what would be the key take away and what advice would she give as future-self. Interestingly, we had to pause in order to continue. We stayed on Zoom, yet I gave her the needed wait time to continue since she was crying. I began to realize that there was a close connection with Stormy since they both got very emotional when being asked the

same question. Dreamy reminds herself of the positive person that she has always been while understanding that her future will be positive as well. She stumbles along the way due to getting emotional which causes her to doubt “how to explain it.” Dreamy then relates that she needs to cry a little bit more. By this point, it is evident that delving into the past caused for her to have some kind of difficulty to proceed. Yet, this is indeed a moment in time that can refer to a learning process inclining on the arts as a strategy. Baruch (2006) believes teaching that builds on theatre, acting, and drama can help reinforce learning processes. Her identity has been challenged due to the emotions that she encountered while being doubtful, yet her determination and positivity has then helped her identity transform to that of a competent teacher. Dreamy contributes to being positive which helped her to keep focused on keeping the end in mind of becoming a teacher which pertains to professional growth.

Red responded to her questions in English, yet it was very interesting to see how she transitioned to her native language in Spanish far along our interview. Red would hardly ever hesitate to answer her questions, in other words, she would respond fairly quickly. She was sure of herself as to what she had to say, however, when transitioning to Spanish, she gave it some thought. As opposed to Stormy and Dreamy, she was not emotional, yet she continued on her path on moving forward. She said,

... you are going to have a lot of difficulties, but you are going to make it. ... continue with all the work and don't give up... Como estabas mas atrás y ahora estás en un punto que nunca llegaste pensar que estabas y pues ya falta menos. [Like you were behind and now you are at the point where you never would have thought to be at and you are right there already]... I think that I want to help everybody but not everybody cares about you and you need to focus more on you because the only person that is going to help you in

other stages of your life it's just you... I think all those activities help me to grow and to realize the things that really matter to me and that they really are important and also such as such as grow not only in the personal but also professional.

Red had a unique way of stating her responses. Other than her fidgeting, she used her hands to help express herself this time. For a moment I thought she might be mimicking me, since that is the way I tend to express myself, but no. Instead, she was simply excited to get her message across. This happened even more when she switched languages to from speaking English to speaking Spanish. Red's personal growth is clear when she reflects upon wanting to help others, yet, reminding herself that "not everybody cares about you." She proceeds with advice on the importance of focusing more on "you" since that is the only one to count on when facing other stages in your life. These experiences all play a part in the development of self-efficacy and also of self and professional identity (Cattley, 2007). She finalizes on how the activities have been relevant and that have contributed to her personal growth as well as professionally.

Agogó is always positive as it is, so throughout interview two, she relied on that contagious smile and discussed many things. Even though she recurred to moments in the past that hindered her advancement in school, she would find a way to overcome those emotions as she expressed how staying positive could help one achieve what you put your mind too. Agogó said,

I will tell myself that I can, I can do whatever I want and that I can do it by myself
... never give up and to give 100%... I do like it. It helps...this going to help me... But
then you are doing it then you remember like hey I wanted this in the future ...you

remember what your goals are. And why you are doing what you are doing right now, and it gives the motivation to keep doing it... I love the letter.

Agogó refers to the letter as a mode of showing her personal growth when reminding herself “to never give up” as well as to “give 100%.” She reassures that she indeed likes the activity which helps not only as motivation, but also as a personal goal of what she always wanted to do. These quotes then help set the tone for the professional growth by discussing the future, referring to whatever might motivate you, as well as understand what the goals are. When saying “I love the letter” gives way to understanding that this activity helped her attain a deeper connection with herself. According to Ewing and Hughes (2008) “[d]rama is an example of a current and recent arts-informed research while paving way in teacher professional learning” (p. 520). It is evident that she is able to reflect upon her past, present, and future while referring to her goals.

All five participants demonstrate personal and professional growth. It is then important for those who inspire, nurture a process by either being a role model, teaching, and encouraging in order to promote professional and personal development (Newsome, 2020). Yet the process to that becoming was emotional to some participants. As stated throughout the data, two out of five participants had a hard time and were crying throughout the interview. Stormy and Dreamy were those participants who were emotional, yet they managed to pull through to keep going. Hardships was a main component as to why they felt the way they did. Participants often reminded themselves that “you can do it”, “don’t give up”, to even “ya falta menos” [almost there] in order to keep grinding. The activity behind this interview reminds us of the importance of ongoing creative practices of everyday pedagogy are necessary (Davies et al., 2013). I must

confess that their words of wisdom became words of advice for me in order to help complete this dissertation.

Student as Paying it Forward

It was apparent that all the participants wanted to pay it forward. Their connection amongst all five participants to paying it forward, came from the fact they don't want to be like any of their former teachers. For this reason, they created characters that instilled support, dedication, passion, as well as being good teachers. By participants paying it forward based on their experiences, their characters facilitated healing, self-improvement as well as personal growth. Some of their former teachers have impacted their lives to where they want to continue to be good teachers. To this end, paying it forward becomes a supporter of their experiences. It is clear to say then that for better or worse, these five participants simply want to pay it forward. The *Letter-to-Self* activity prompted for in the moment responses. Some of these were based on complex lived experiences for some which then shifted to positive outcomes which enabled them to portray their given characters as those whom they always wanted to be. The participants found this activity to be a profound, yet meaningful one. According to Dennis (2009) "There is a demand in improvisation to be in the moment to notice and respond to what emerges has provided foundation in the writing" (p. 237). Identities were at times challenging yet transformed through change.

Autumn is confident that she is not only going to be a teacher, but a good teacher. She refers to how it is important to believe in oneself and "not put yourself down" as well as focusing on how seeing yourself helps. She discusses how she didn't have any teacher guide her on the importance of getting an education. She then relates to the improvisational activity on how it has made her feel and how helpful it has been for her. She says,

I know I am going to become a teacher and I don't think I know!... Of how we are going to grow, how we need to see ourselves, how we need to believe in ourselves... I made that in the letter too that we are going to continue to grow to not put yourself down and things like that... Help as in education wise and um with like guiding myself in the right directions in school which is one of the bigger reasons why I want to become a teacher too because I didn't have anyone that guided me or had a teacher that was like hey, school is important, you have to keep up your grades to get into school and things like that... They made me feel great! They made me feel awesome! I feel that I successfully did them. I felt accomplished... I feel that I learned and grew from them. They didn't make me feel defeated. It made me feel like, ok this is what's it's about, let's go...

Autumn not only discusses why she wants to be a teacher and reassures herself, but also exemplifies on what she will be doing. She relates to "how we need to see ourselves" which is in a positive way as well as "to believe in ourselves." She recalls on those teachers who were not good mentors and reminds herself that it is fine to ask for help when needed. It is evident that she revisits the past and refers to change when saying that "we are going to continue to grow to not put yourself down." Autumn is clearly not going to follow the same path as her former teachers. Instead, she wants to make a difference. She then talks about "guidance" and relates again to her past and wants to make it clear that there are "bigger reasons why I want to become a teacher" since she didn't have anyone to guide her when she was in school. By asking for "help" is a strong suggestion that she is making thanks to her own lived experience. She also refers to those good teachers who acknowledged her and made her feel good. She states that "They made me feel awesome!" which helped her feel good. Autumn acknowledges the arts-based activities for making her feel accomplished. It made her grow and "not feel defeated." This prompts us to

believe that the *Letter-to-Self* had a sense of purpose which is well aligned to paying it forward. The Letter-to-Self activity coincides with Cote (2010) since we “[m]ust provide ‘experiential, meaningfully relevant, safe learning experiences that help develop and individual’s concept of self’” (p. 43). We are reminded that having good role models/teachers in school can help us be competent. Paying it forward is evident in Autumn’s response which strong desire in making a difference stands strong.

Just like Autumn, Stormy has come a long way. She is an individual who has worked very hard on various levels to not only adapt to a different norm, learn an additional language, but also keep up with the expectations of what she has been required in schools. For instance, she keeps a notebook where she writes vocabulary terms which come from conversations from her child’s teachers when taking classes on Zoom along with her own courses as well. It is evident that she sets high expectations of herself and is preparing to become a better teacher. She is demonstrating that she is a life-long learner. Indulging in knowledge based practices such as what was mentioned, helps to prep to pay it forward as a teacher. In this interview, she would get emotional of thinking of that teacher that she wanted to be. She refers to those teachers who have made a difference and inspired her to become better prepared. Then when asked what she had learned from the activities she expressed how the activities have helped her feel more confident and how she has constant reminders of “I can do it.” She also relied on the exercises in which groups worked together. From here, she was able to tie to what it might be like working with “grade level teachers.” She said,

...Yes, all of the activities were very helpful!... since I did my primary years in Mexico, I don’t think that we had that privilege as the kids here in the US like they have everything

in the schools...Hopefully I can close that gap when I teach science. I will make it like it the best, I will give it my all and make it a very interesting subject.

Stormy's attempt to wanting to pay it forward is evident. This is made clear when she states that "Hopefully I can close that gap when I teach science." Prior to this statement, she allows us to understand the panoramic scene of where she came from and proceeds to claiming how "kids here in the US like they have everything in schools." As an individual who is moving closer to becoming a teacher, she knows of the opportunities that she will have in the near future. She establishes that possibility of becoming an enthusiastic teacher who will help her students any which way she can and provide educational opportunities for them in science. This is an exceptional way to pay it forward.

Dreamy's data for this particular interview was somewhat all over the place. As much as I tried having her respond to the questions, she would go back into various topics. The conversation would then lead to other topics that pertained to when she worked at a school as a substitute, to that as a child, to when a project idea was "stolen" from her back in elementary. This particular interview was challenging for me when asking her the questions and in order to get her responses. Just like Red and Agogó, she referred to her native language by speaking it on occasions. Dreamy, was just like Stormy, she got emotional more than once throughout this interview and was beyond what I had expected. Yet, I captured that moment where she reminds herself of becoming that teacher in the near future when she said,

I already know that I do want to be a teacher. Like I do want to help the students... I am so happy you chose this career I am happy just to see you happy ... Even if it is something to yourself like look at all what you have been through and you are in a good path and you are almost done and. I think it's really good.

Dreamy is convinced that she wants to be a teacher and will provide the needed help to her students. There is an obvious sense of excitement and enthusiasm when she shares how “happy” she is not only for choosing teaching as a career but also for pulling through the difficult times that she had to endure. Both excitement and happiness seems to overload her quote which justifies as to how she is feeling now. Dreamy reminds herself of all of the struggles she had to endure and gives herself credit for being in the “good path” while encouraging herself and set as a reminder that she is almost done. There is advice for preservice teachers to practice the arts integration and or identify themselves with those teachers who do practice these approaches, if not they will more than likely dismiss the research-based pedagogical approach (Bridget & Cawthon, 2015, p. 5). She has a unique way to showcase her enthusiasm in teaching and this is a way to pay it forward as a future teacher.

Similarly, just like Autumn, Red expresses how the activities helped her grow. She also has similarities with Stormy’s responses in regards to being knowledgeable and taking advantage of school programs. In this second interview, she reflects upon certain situations that pertain to her not knowing about specific programs and for the times that she was afraid to ask or inquire for help. She wants to make sure her future students do not endure the same hardships. Instead, she wants to pay it forward and make sure that her students get every opportunity they can have. She says,

Like always talk to your teachers and you are going to have that knowledge... because sometimes as a student you don’t know all the advantage that you have you as a kid you’re ignoring them and then you can add that in high school or you can apply for that and you didn’t know about that you feel like you didn’t know about that and when I was in high school there was a lot of programs that I wanted to know.

Red addresses the lived experiences that she encountered as a student. She begins by expressing how “knowledge” is fundamental to have as a student and that it is always helpful to rely on someone else if need be, to ask others “if you don’t know.” She is reassuring it should be a norm that will allow a good communication between student and teacher who should not only mentor but provide the given knowledge when being asked for help. She also mentions how important it is to “know all the advantage” that you might have as a child meaning that there might be programs that can help you in education and be involved in. This relates to what happened to her while in high school when she had just arrived to the United States. She didn’t know about programs, yet even though there was a negative impact on behalf of administrators, she had a strong mentor/teacher who helped her to keep moving forward in school, learn, and then graduate. It is because of this specific reason that by having a strong support, she feels the need to pay it forward with her future students. In reference to the letter which helped her to sculpt and portray a character, enabled her to be the teacher she wanted to be. The arts-based activity has helped her to overcome the fear of asking for help as well as showcase who she really is. According to Pentassuglia (2017) “Art becomes a posture, a lens and an instrument through when it can be possible to study phenomena thanks to different perspectives” (p. 6). The arts-based activity gave Red the opportunity to not only see herself as a teacher through a different lens other than what she had always experienced in high school. Her identity as a competent teacher developed and gave way to the needed confidence that she needed to have.

Agogó explains how arts- based activities can help, then she leads the conversation to a lived experience with not knowing English to a full discussion in Spanish. The *Letter-to-Self* has given Agogó a gateway to becoming who she wanted to be; a goal oriented teacher with much

enthusiasm to help her students succeed regardless of the language and or background. There is a clear intention to pay it forward with kindness when she says,

Improvising gives you more material to practice. When we are in that position, we are already going to know what to say and what to think when we are with the student. It gives you the knowledge in every situation to prepare and that is what I liked...I see that activity like something that was to motivate us and to make us think more in depth of what we want and what we are doing and where we are going. In the future I will do the same thing for my students at the beginning of the year like what would you tell, what will you want to learn this year and they will set their goals and that's a reminder for them to keep doing it in the class... to think more about our goals.

She then said,

...I didn't know how to speak English or talk or read and it was hard and I remember that I was wondering what others would think about me like I would think that I was going to speak anymore and I was at the back of the classroom and just be there and then I started to skip class not pay attention and like I said I felt I lost one year and when everybody was graduating I felt lost because I said oh my God, que verguenza, ya no terminé y dije no tengo que seguir y ni modo de los demás digan si no se hablar en inglés no lo van a entender o si se van a burlar de mi ya no me importó... [How embarrassing, I didn't finish, and I said I don't have to continue and too bad what anybody else says if I don't know how to speak in English or if they are going to understand or if they are going to make fun of me. I don't care]

Agogó acknowledges improvisations as a way to bring students into the conversation and refers to being the teacher when saying "when we are that position" while gaining experience

leading then to say “know what to say and what to think.” She expresses how she can have the needed “knowledge in every situation” which can refer to the improvisations being a pathway to communication and a unique way to understand a situation or content differently. Agogó understands that this activity is to allow them to think more in depth while giving value and respect to the creation of their future-self. She is acknowledging improvisations, then proceeds to mentioning how she will conduct her own classroom in the near future with her students. She refers to discussing how she will start the year when mentioning “what would you tell” then “what will you want to learn this year” to setting goals. She is setting the tone as a teacher to enable students to participate as a possible ice-breaker activity. For instance, this can be a type of expectation for starters. Teachers tend to form stable expectations at the beginning of the school year (Denessen, 2020). This is clearly the opposite of what Agogó had to go through in school. When reminiscing about her past experience, she begins by speaking English. Yet, when she became more emotional, she shifted to Spanish. This was an emotional moment for her yet, I could feel her frustration and somewhat anger when sharing this information in the interview. Her words suggest by giving the students the opportunity to feel good is a win-win situation. She can excel as a teacher and her students can lead by example. This can then serve as a future reference for those students in her classroom who might encounter the same situation. She then mentions “what we want and what we are doing and where we are going” which she then refers to acknowledging her future student’s goals who she will prompt them to keep pushing forward. Agogó can pay it forward by motivating her future students. Another way in interpreting how she wants to pay it forward, is that she wants to give her students the opportunity to learn, feel safe when speaking, and have the ability to teach approaching each one of them in a different, yet good way. The *Letter-to Self* activity can serve as an appropriate arts-based strategy that helped

Agogó to different levels of interpretation as a teacher, to meet her goals, portray herself as a teacher, as well as a way to pay it forward to her students. Arts-based strategies can be useful in building student's pedagogical content knowledge as well as building instructional skill (Booth & Hachuya, 2004, p. 33). Agogó is simply trying to take a different aim to teaching and adhering by what she just learned through an arts-based approach. According to Stenberg et al. (2014) "[t]eacher identity is an ongoing process where through dialogues in various contexts and relationship, different teacher identity positions have their own voices and aim" (p. 206). It is evident that Agogó has embraced her identity as a positive and innovative teacher.

The participants have come to terms to their own experiences and have made meaning to these challenges. To this end, these five participants feel a sense of responsibility towards individuals who have had similar challenges and have a sense a responsibility to pay it forward. They will intentionally model what good teachers need to be. The way the five participants manifested this was by connecting to the pedagogical arts-based activity of *Letter-to-Self*. Participants discussed about the importance of creating future-self characters and the process of becoming themselves in the future as teachers as well as talked about how they want to be good and competent teachers. One participant said how improvisations can help to grow as a teacher, while another said that improvisational activities can help on a personal and professional level. Interestingly, three out of five participants referred to their native language in Spanish to further explain and expand on their questions. When I would respond in Spanish, the participant would use corporal gestures such as nodding her head asserting to what I would say. This led to a different kind of connection. By speaking and responding back in Spanish is not only a sign a respect to their native language, a way to help them expand on their communication to feeling secure, but also a way to pay it forward. The participants seem to find a level of comfort as well

as a way to want to communicate in their native tongue which can be interpreted as something they look forward to when allowing their own students to communicate back with them in their native language without being reprimanded. This is also a way to embrace teacher identity. According to Stenberg et al. (2014) “If we want to prepare good teachers for tomorrow’s schools, teacher identity should create a common thread in teacher education” (p. 216). There was a common thread in reference to understanding their *Letter-to-Self* activity, the meaning of improvisation, the bond between a teacher and student, communication, as well as setting future goals while paying it forward. All participants shared how arts-based activities can help in teaching and their responses to the second interview align to how they will be paying it forward as teachers. The following elaborates on themes of the second and third pedagogical arts-based activities which include the data for both based on my participant observations and interviews.

Pulls and Pulling Through Zoom

Preservice teachers had the opportunity to extend on their Activity 1 *Letter- to-Self* where Zoom served as part of our set. The screen was in gallery mode on Zoom to where everyone was visible. There was a moderator in place in case things would get out of hand. Their *Letter- to-Self* was read by a peer and preservice teachers were on both sides of the screen next to the one who would be starting the activity happened to be in the middle of the screen. The preservice teacher in the middle of the screen was the teacher who would be taking over of what took place in the letter that was read. Everyone in class was instructed that they would have to be listening closely in case they would be called on with a specific role to play.

Improvisation from Unexpected to Expected

The roles consisted of a teacher, parent, a counselor, and principal. The teacher would be the only one who would volunteer to start the improvisational activity. The preservice teacher

started the activity by playing the role of the teacher. Preservice teachers were attentive and when called upon, they would have to immediately respond to the thread of dialogue that last took place. Dialogues took place and served as both a steppingstone and a stumbling block that would prevent that person from becoming ten years from then. This served as an improvisational response to the letter.

Autumn expressed how the *Pulls and Pulling Through Zoom* Activity was her favorite. She mentioned that “everyone was acting” and as she stated it, “that helped for this activity to work.” Throughout our conversation, she mentioned that she really liked how others who stepped into the roles when being called on, took part on what they needed to do. For instance, a parent was complaining to the principal that her child was being bullied. This made Autumn reflect and think that this could have really happened in the real world of teaching. Autumn started off the activity who played the teacher and who was the starting point to this Activity 2. She said,

I think that the gallery mode one was awesome because that’s when we all came together as a group to do it. I was really interested in seeing how everybody would talk or how to react in their own character...Everybody has to be fully in and wanting to participate and think about the different situation that could happen and so they have to act upon it and really perform so that we can feel that it’s actually happening, like the scenario is possibly going to happen without even knowing how you’re gonna react... it turned out to be really good... I felt like some people were like hey you’re the parent, you’re this...They would just get into the role of it. They felt like unexpectedly called on but at the same time they were like happy about it because it felt like they were participating in

this the whole class activity that we were doing...I felt like we were able to get an intake of what it might be like of how we need to prepare ourselves.

Autumn had a very good insight of what it takes to improvise. She begins by sharing how the improvisational activity of “gallery mode” was truly effective since it brought everyone “together.” She then proceeds to mention on the importance of getting into character in order for the improvisation to have meaning. Autumn gives insight as to why she thinks the improvisation worked and as to why it “turned out to be really good.” She continues to comment how her peers “felt unexpectedly called on” and were “playing a role they were paying attention” which helped for the improvisation not only to be competent but also to have a sense of what to do in order to prepare to be a teacher. Autumn had spearheaded the activity since she volunteered first to be the teacher and called upon the character of a parent who was another classmate. To give a little insight on what happened in the improvisation, that particular classmate who was now going to be playing the “parent”, had been paying attention and jumped right into the improvisation. The rest of the class by this time was actively engaged and paying attention. The parent then complained to the “counselor” that her child was being bullied. It is evident that this improvisational activity, played an important part in understanding what was unexpected to that of what is expected in the process and outcome of a situation with given roles.

Stormy did not pick *Pulls and Pulling Through Zoom* as a favorite activity. Stormy had been selected by another peer to be the “counselor” and she proceeded to mediate between the principal and parent since the situation with the child of being bullied had escalated. Yet she mentioned that she learned not to doubt in herself. She stepped in to calm the parent and mention that her child would be getting counseled in school in the days to come which is what put the situation at ease. When asked what she had learned from the activity, Stormy said,

...not to doubt myself. Just do it. Because I know like I said, I know what technology especially with technology I know I'm gonna have to improvise.

It was interesting to hear how she had transitioned to what she would have to do with technology and mentions the word improvise. Yet, Stormy didn't expand much on this particular activity.

The only thing that I could only relate her response to my questions of what she had learned from *Pulls and Pulling Through Zoom* was "not to doubt myself." In regards to technology, I could only think of Zoom as a mediator in the moment. Stormy did step out of her comfort zone of being shy, had to improvise in the moment and did very well by containing herself not to laugh. Instead, her facial expression was that of a surprised one and she did the best she could.

Dreamy was very blunt to say she didn't really like the *Pulls and Pulling Through Zoom* Activity 2 improvisation. When asked what her thoughts were she just said,

It was really good it's not like the best experience since it was super unexpected you actually had to think fast and look like if you were there... well once you're in the classroom when you're with a real experience I feel like you have more experience.

This was interesting to me. She says she liked it yet didn't think it was the best experience because it was not expected. Dreamy proceeds to stating that "it was super unexpected you actually had to think fast" which is one of the main aspects of an improvisation. She was selected by a peer to be the parent and truly had much to say throughout the improvisation. She improvised immediately as they called on her. Dreamy was defending her child who was getting bullied which she felt that they were not doing much in school. She did speak over the principal's voice showing her anger. Yet by this time, the counselor had already stepped in to mediate. This improvisation had Dreamy step out of her comfort zone and quickly respond to a situation which overall, she did very well. Once again, this improvisation serves the purpose of

having a scenario fit the needs of a real situation which went from the unexpected to that of an expected outcome based on their responses and beliefs.

Red did like the *Pulls and Pulling Through Zoom* improvisational activity. Yet, she did not improvise with a character since she had not been asked to thread along in the improvisation. She said it was her favorite one and liked how they all had to be paying attention. She said,

I feel like I learned more from the *Pulls through Pulling* because you have to put attention to throw the ball to the next person... I think it was the one that I liked more because it was like with everyone... well it was kind of a challenge because I don't know what to say or if I was doing it right but yet and you had to keep up with the story, so it was funny yes that's what improvisation does... I really like that activity I think it was my favorite.

Red adds how she also liked it since everyone could participate and how it was challenging in a sense that she did not know what to say without knowing if she was right. Yet, she had to keep up with the thread and flow of the improvisation by answering and being on task. She reiterates that it was her favorite activity.

As for Agogó, she did not select Activity 2 as her favorite. She didn't get picked when improvising. Instead, she said that she got stressed out. She recalls,

I think that activity I got stressed with that activity and then I got kicked out as soon and then I kept thinking what am I gonna say? I don't know I was nervous because you have to speak in front of everyone and if you say something wrong maybe it's not that big of a deal, but I just got stressed I don't know why ...I think because I didn't know what to say. I was going to speak randomly so if I didn't get picked.

Agogó explains as to why she didn't like the improvisational activity. She relates to being stressed and refers to being kicked out of Zoom. Yet, she kept wondering what she might need to say if she would be called on. Even though she doesn't openly say it, this improvisation prompted her to be nervous and feel somewhat intimidated due to having to speak in front of others. This is evident when saying that "if you say something wrong" in front of others, might not "be that big of a deal" but it would be for her. This participant was not comfortable with the improvisation since it clearly became part of the unexpected.

Activity 2 Pulls and Pulling Through Zoom engaged the preservice teachers to respond to the letter through improvisation while they were actively listening in case they would get selected to participate. Autumn volunteered to be the teacher and two out of the five participants randomly got picked to have a role to play. This improvisation activity lasted 20 minutes and gave way to thread the voices to the roles that were interchanging dialogue. At first, the preservice teachers did not know what to expect. It was evident that there were important engaging moments that led the preservice teachers from the unexpected to that of the expected. Some were somewhat nervous biting their nails, others attentive to the screen, while a few preservice teachers were looking down at their notebooks while writing. These particular preservice teachers looked nervous of which one of them was Agogó. Eisner (2001) is right that [w]e need teachers who promote improvisation, surprise, and diversity of educational outcomes as educational virtues" (p.372). Activity 2 did exactly just that, it introduced preservice teachers to something new by including ways in which educators can include all participants in class. I paid special attention to ways preservice teachers were experimenting and imagining pedagogy and embodying possible identities. Those who had leading roles in our Zoom set were in character. Engagement, problem solving, as well as listening skills were put to practice while

having fun learning. This is an educational virtue. This improvisation was intended to only refer to the responses of the *Letter-to-Self*. Yet, it extended to other situational events that were taking place in the moment. After Activity 2, rich conversations took place. Preservice teachers had important feedback to share, and many came to the conclusion that this improvisation would help their future students especially for those who might be shy. There was no fear in speaking, instead they were connecting with one another while improvising finding solutions to what was happening.

As for those who were shy, they did explain that they were simply scared to speak such as Agogó who mentioned earlier that she got stressed out. Another important aspect that was discussed was how preservice teachers were able to problem solve. This sparked a neat conversation about ‘what if’ when they become teachers and how they could use this improvisation to help with problem solving. The stepping out of role at the end of Activity 2, allowed preservice teachers as mentioned, to discuss what happened and examine their prior thinking in a critical way (Andersen, 2004). Creativity was enhanced when producing their own characters while improvising and important interactions took place with the participants of this study. The following discusses the analysis of the second pedagogical arts-based activity that participants participated in.

Improvisation from Timid to Confident

Mostly all of the five participants were timid when they were young. However, throughout their participation in the improvisational activities, the participants began to have a shift in identity. There was also a sense of pride in becoming confident not only because they were participating more but were being more outspoken.

Autumn has always been a shy individual yet learned to speak for herself and would ask for help when needed. Even though teachers would often ignore her, she would find a ways to keep motivated. By playing a sport, it helped with not only coping with how she felt being in school, but also made her feel confident. Autumn also felt confident when participating in the improvisational activities. She played role of the teacher in the *Pulls and Pulling Through Zoom* Activity 2 and when asked about the improvisations and how did these types of activities make her feel, she said,

... I felt that I am going to be a great teacher. I am going to love what I do... Keep going, and I am going to be able to figure it out...

Autumn is convinced that she is keeping to her standards which is to become a great teacher. She emphasizes on “going to love what I do” and reminds us that she is going to keep her word. It is clear that she will be able to problem solve when saying that “I am going to be able to figure it out.” This can relate to Autumn being independent and not needing anyone to help her figure things out. This leads me to believe the improvisational boosted her confidence.

As we may recall, Stormy has been timid for most of her life. She has expressed how she was always very shy and quiet and how she often had many questions which she would reflect on. Yet, when I asked the same question as I did to Autumn in regards to how the activities made her feel she said confident. This is revealed when she says,

One, being confident! That is number one and not being perfect that we can always ask for help, and that hopefully, I’ll have good workers, or good grade level teachers where we can help each other. I really hope to work like at a good school with good peers.

Stormy mentions confidence when participating in the improvisational activities as well as how it is alright to ask for help which then leads to hoping that she will have “good grade level

teachers” to help one another. I must attest that it took much courage for her to be moving towards being outspoken as well as for taking risks since she had started the course being extremely timid. It must also be noted that as we progressed and kept moving forward with the interviews, she also was much more confident. If we look at her discussion, she not only emphasizes on how confident she felt, but also refers to “can always ask for help.” This moves her a step closer to losing the fear of approaching someone to ask for help which is something that she would not do in the past.

Dreamy out of the five participants, has been the most outspoken one. She has built on her confidence ever since she had her child at a young age and whom she had to help provide for as well as support her family. For this reason, she had jobs that allowed her to be actively engaged with others which enhanced her communication skills. This was some form of building on her confidence on a personal level. However, as we moved forward with our improvisational activities, she became even more confident but with deeper inferences. For instance, she elaborates,

I feel like I learned how to thank yourself. Like you learn how to love yourself. I think you just learn how to talk to yourself.

Dreamy becomes analytical as she delves deep into her own emotions. There is no need to have an extensive response if what she has discussed here is interesting and with much deep meaning. There is a movement here as well as an impact on her identity in the form of how she sees herself and what she does as a result. She not only thanks herself and gives us advice to do so but proceeds to mention to “love yourself” and finally to “learn how to talk to yourself.” She delves into having deep connections with herself which relates to being confident.

Red seemed to like discussing the improvisational activities and how these made her grow as well as how she learned from them. Her response is almost as if she is giving advice on what we need to do when participating. She said,

...what I learned from improvisations like focus on the things that you want not being distracted with little things that are not important, just focus on the real important things... I think all those activities help me to grow and to realize the things that really matter to me and that they really are important and also such as such as grow not only in the personal but also professional.

Red begins by letting us know that it is important for us to focus, not be distracted with minor things, and simply “focus on the real important things.” There is a sense of maturity on behalf of Red. She also emphasizes on the improvisational activity that made her “grow not only in the personal but also professional.” It is evident that Red displays confidence.

Agogó is that participant that when she wants to talk, she will make every attempt for you to keep up with her. The *Pulls and Pulling Through Zoom* gave way to a unique improvisational activity that allowed her to interact with others. She also refers to having the participants feel competent through problem solving since she along with her peers, had to pick up from where the other partner left off. She also relates to the following in Spanish when she says,

Me meti a [nombre] y recuerdo que un maestro me dijo que si podia usar mi final como ejemplo y allí fue donde dije wow yo desconfiando de mi misma cuando se ve que sí puedo! y allí fue donde dije si si puedo, aplique al programa, me meti al programa, mis clases también. [I joined [name] and I recall that one teacher told me that if he could use my final as a sample and that is when I said wow, me not trusting myself even when

noticing that I can do it! And it was then when I told myself yes I can do it and I applied to the program, joined the program, as well as joined the classes as well.]

Agogó has always been a timid person. Yet, she has expressed how the improvisational activities have helped her to communicate with peers along with coming out of her comfort zone. This improvisation was not only fun according to the participants, but an important interaction with peers that took place which they truly enjoyed. I concur on how role-playing can be the most educational and enjoyable teaching method (Stencel & Barkoff, 1993). There were important changes throughout the improvisation that prompted a shift in their awareness with their identities. This demonstrated ways in which the participant's identities built meaning and confidence. The next section refers to the third improvisation activity.

Fourth Wall

This third activity consisted of embodied science teaching where preservice teachers were given background characteristics. Preservice teachers were separated into four groups of 5 preservice teachers. There was one profile teacher and the rest played students for each group. Amongst the groups, there were preservice teachers who volunteered to play the role of the teacher. Prompts were given with the characteristics of a role to play in detail. The prompts consisted of the teacher taking upon a topic to teach about the Solar System, Rocks, Weather, as well as Living and Non-Living Things. The preservice teachers were randomized and separated in Zoom breakout rooms. This activity served as a form of reflective practice for all especially the participants. The following data emerged from the *Fourth Wall* Activity 3 which themes consist of Improvisation from Novice to Maestra [teacher] and Improvisation from Student to Latina Science Teacher.

Improvisation from Novice to Maestra [Teacher]

The groups were divided randomly amongst four groups and were then sent to separate breakout rooms on Zoom. They had a moment to discuss who would be volunteering to play the teacher. Once they decided who the teacher would be, then they came back into the main room to meet with me for further instructions. When they came back to the main room, they were instructed to proceed to finding information on various sources of their choice to teach a lesson on a science topic. Once they would find the resources that they needed they had to teach a lesson to the students. Two teachers used Youtube videos to enhance their lesson, while another used BrainPop Jr. as an additional source which has many science resources to pick from. I kept popping into each breakout room and I discovered that the students were interacting in the lesson while there were teachers teaching the lesson. I also came across a group that were listening to a video and were asked questions about the particular video. There was note taking involved as well as teachers prompting their students to discuss the content. The students were responding well to this activity. In another group, a teacher asked her students to sketch the planets which students did in their notebook. All five participants played the role of a student and made important connections to the content being taught as well as ways in which they thought they could have taught the lesson. The following data gives insight to participant responses to the *Fourth Wall* Activity 3.

Autumn has been that participant who liked science from the beginning. Not only was this evident when visiting her breakout room which happened to play a student, but her responses were relevant to science content. When asked how these improvisational activities made her feel she said,

I think I grew from them on myself just how I see myself and how to tackle certain assignments or how to tackle certain situations. Like different situations that can happen. You also gave like personal experiences and possible things that can happen and will happen. And how we can deal with things, with students and our own classrooms.

Autumn explains how she not only grew from the improvisational activities but also how she could see herself being able to “tackle certain situations.” This pertains to another unexpected experience just like in Activity 2, where uncertainty seemed to be a protagonist. While it was also interesting to see those who resisted, who I could easily relate to that of an antagonist. Yet, overall, the participants were now on their toes, ready to respond to the teacher’s questions. Even though Autumn did not volunteer to be the teacher for this improvisation, she gradually stepped in to being one when taking over a science lesson on rocks. When I visited Autumn’s breakout room, she was not only providing feedback, but she was now taking charge of the lesson. This can connect to her saying “Like different situations can happen” which is when she got to observe how the teacher needed to plan, understand the content being taught, as well as being on task if called on. It is evident that Autumn started as a novice teacher, attempted to move to being a maestra while transitioning to a science teacher.

Stormy was always a quiet and shy student of her own, yet for this particular improvisation there was a shift in her identity. She was listening to the teacher lead the lesson on the Solar System at the beginning. As I was in her breakout room, I observed Stormy as a confident student who did not seem to be playing the part of a student but a teacher instead. She was giving feedback on the Solar System talking about the planets connecting to the video they had just watched in her group. I noticed that she was not the same Stormy as before. She was well poised, relaxed, using a good tone of voice, and confident about the content that she was explaining on. She could have easily transitioned over to being the teacher in that moment.

However, Stormy did not like this improvisation as much as she liked the *Letter-to-Self*. For this reason, there was not much data in regards from this particular Activity 3 from her second interview as compared to the 3rd interview. When asked about what she learned about these improvisation activities she said,

I am very glad, and we stuck together and we were able to help each other in groups.

Stormy was relieved in some way to have had her peers participate in the improvisation together. One where all could rely on one another for support. Yet, like mentioned earlier, Stormy proved to be able to move towards being a science teacher while being a good co-teacher while sharing important details on the solar system throughout the lesson. Just like Autumn, Stormy moved from being a novice to that of an exemplary teacher.

Dreamy was frustrated because she didn't volunteer to be the teacher. Instead, she was playing the role of the student. Dreamy's group, focused on a lesson pertaining to Weather which they then extended to Seasons. When I joined her group in the Zoom break out room, I experienced watching students doing movement. This action was emphasizing on the wind, and how the wind sounds along with watching the students raise their arms. They were having their wrists hanging down while moving their fingers as if it were to be raining. Dreamy had taken over as a teacher. She elaborated,

...They were like acting like little kids and ...I remember we were first grade; all the kids were like super like acting like little kids were like what did you like about the cold?... like I was really really frustrated... The grade level know and know what they are doing. And I told her how to look for, how to look for when it started raining.

Dreamy's frustration not only was evident because she didn't play the role of the teacher,

but began to wonder off again with having responses tie to other thoughts. First, she talks about the students in her improvisation that were acting like little kids where she reiterates that they were in first grade. Then she proceeds to mention how there was a discussion amongst them pertaining the weather about it being cold. Dreamy then focuses on being frustrated which she has now hit her limits of losing her patience. As she described this in the interview, she was livid. It was interesting to see her face change colors and she started flapping her hands when telling me she was frustrated. She did calm down after sharing how she told the teacher what to look for as well as what to do which was by implementing action in order for there to be rain by moving their hands. Dreamy was no longer a novice teacher. Instead, she had become una maestra ejemplar not only by being able to problem solve, but by knowing what resources to look for, where to look for them, as well as for taking over a lesson while team teaching. Regardless of her feeling frustrated since she felt she could do it better, she was thinking about the students and giving them the opportunity of learning about science specific content.

Red was in the same group as Stormy. Red thought the lesson on planets was very interesting. She liked the sizes of the planets and how she got to sketch the planets too. I can attest that her group were paying attention to the video, the lecturing of the teacher, as well as to peer collaboration since I saw it firsthand when I visited her break out room. She said,

...what I learned from improvisations like focus on the things that you want not being distracted with little things that are not important, just focus on the real important things.

As much as Red has been distracted throughout the interviews and improvisational activities, she mentions that she has learned how to keep focused on “the things that you want.”

She then adds to “not being distracted” with what might be insignificant. She further explains in detail in the third interview of what was significant about this *Fourth Wall* improvisation.

Agogó was in the group that discussed Living and Non-Living Things. She explains how they had to be paying attention since the teacher was randomly picking on her students to answer questions. She also mentioned how the *Fourth Wall* was her favorite activity since she got to see someone else pretending to be a teacher. When I joined her Zoom break out room, I noticed how the students were truly attentive. She also said that she would be making sure to use this activity in the near future with her students as revealed in the following data. She elaborated,

I see ...In the future I will do the same thing for my students at the beginning of the year...they will set their goals.

Agogó played the role of a student in the *Fourth Wall*. She understands that this activity not only motivated them as a group, but also allowed for them to move to deeper thoughts of understanding. This led to analyzing where they were headed to, and for acknowledging what her future students will benefit from. She emphasizes on goal setting as well as motivation that will enhance student achievement. Agogó has displayed a good sense of what it takes to be a good teacher and to understand that a teacher is a life-long learner. Yet, by her providing evidence in this data and to what I was also able to observe, that her identity moved from being a novice to that of an exemplary teacher.

Improvisation from Student to Latina Science Teacher

The participants were very engaged in the *Fourth Wall* improvisational activity. They had various opportunities to plan as a grade level in their groups, think like a teacher, and role-play teachers as well as students. The “what if” moments became prominent in this particular

improvisational activity. It was evident that the participants shifted from students to Latina Science teachers in the *Fourth Wall* activity. The role of their identities in determining ways in which they perceived and received change was evidenced through the following data analysis.

Autumn is the participant who dives right into an activity and doesn't hesitate to take risks. She has never been fearful or hesitant in participating in any activity nor has she been afraid of being introduced to the unknown. She has made a unique connection to the preparation of becoming a teacher and her data serves as evidence. Autumn says,

I learned that you must have like self-awareness and like management and things like that. Of how we are going to become teachers. Of how we are going to grow, how we need to see ourselves, how we need to believe in ourselves. How to organize our time as well...Management on like a way to cope on our classroom...

Autumn's data reveals that she has made connections to "self-awareness." She had never been given an opportunity to delve into the formation of becoming a teacher through an arts-based pedagogical approach that enhanced her critical thinking skills. Yet, the *Fourth Wall* gave way to implore on her teaching skills when giving productive feedback to her teacher. She discusses how "management" is important in becoming a teacher. This led her to having an introspective moment of analysis of how she could become a teacher by "how we are going to grow" to "how we need to believe in ourselves" as well as "how to organize our time." This is an important aspect of teacher formation. Understanding the complexity of the components of becoming a teacher can be a unique process in which teacher preparation can be overwhelming for any candidate. Yet, Autumn has taken a different and unique approach from being a student to that of becoming a science teacher.

Stormy has also taken a risk in exploring a different way of becoming a teacher through improvisation. Even though she is one of the most timid of all the participants, she takes the opportunity head on. Throughout the interviews, she kept going back to her *Letter-to-Self* as the most significant activity. What is mentioned below reveals only a portion of the data analysis that pertains to Stormy in this *Fourth Wall* improvisational activity, it wasn't referenced as much in her first two interviews. For this reason, her data reflects what was mentioned when she says,

... were able to help each other in groups, try this do that, we worked by the time you realized, we already had a lesson plan, and it was amazing!

Stormy does emphasize on the importance of cooperative learning. Since the participants were grouped together for this improvisation, I wanted to have them have a sense of how grade levels work. This is why she says, "we were able to help each other in groups." Her response leads to the importance to problem solving as a group. This is exactly what grade levels do. Grade levels get to plan, and problem solve with the best interest of their students. She ends by liking the experience of creating a lesson plan within a time frame that they were given to work on.

As we may recall, Dreamy felt frustrated for not playing the role of the teacher. She rebelled by being an obnoxious student who was causing trouble throughout the improvisation. Yet she managed to be reeled back in to participate with other students, however, Dreamy couldn't hold back and transitioned from student to teacher. She then shared some of her teaching skills when participating in the *Fourth Wall*. Dreamy said,

I am wondering why didn't you...it was fun to be the teacher! Nobody was acting like students... so, she started repeating the sentences, everyone started repeating sentence. Like no fun... like I was really really frustrated... I wanted to... How these ideas pull you through... I told her how to look for, how to look for when it started raining.

Dreamy reflects in the first sentence by asking herself why she didn't volunteer to be the teacher instead. It was out of reach for her then to feel that she knew how she wanted to conduct the lesson yet was held back since she was role-playing the part of a student. Secondly, she criticizes her peers by saying that "nobody was acting like students." She refers to wanting her peers to be acting like first graders since that was the exact grade level that her group was participating in. She was frustrated since according to her, she knew what a better outcome of a science lesson on weather could be if taught by her. She didn't hesitate to step up, she was eager to show students what she knew about the science content and what she had shared with a group of students in real life when she had substituted a class. This initiative, desire, and willingness to share and produce was a clear indication that she had become a science teacher.

Agogó played the role of a student. She didn't have Dreamy's real life character of taking matters into her own hands. If we may recall, Agogó came from a past experience in school where she was made fun of and ignored. When asked if the improvisations were easy for her, she said,

It's easy because you are just pretending and maybe somebody will say something that wasn't right and that is scary you are learning. That is why you need to practice but yea it was a little bit scary when they ask me something I was like what if this isn't the right answer. Or if it was wrong for the kid but you learn.

Agogó reflects on playing a student in the *Fourth Wall* improvisation. When I observed her group, she was quiet yet was participating when she needed to. She mentions that "you are just pretending" which gives way to a sense of her relying on taking on the risks of making mistakes. This is in response to acknowledging that practicing is important regardless of how scary it might be due to giving a wrong answer when responding. However, she proceeds to

understanding the motivation and the critical thinking process of an improvisation. This made me connect to the first interview when she shared how she has always wanted to be a teacher. It is important to mention that even though this improvisation doesn't seem to have impacted Agogó as much, it did. In our upcoming third interview, she shares how the *Fourth Wall* was her favorite improvisational activity in which she then elaborates on.

Activity 3 *Fourth Wall* did engage preservice teachers to embody science teaching characters. There were two participants who were in the same group learning about the Solar System who watched a video on planets and learned about its corresponding digital resources. Both of these participants kept a notebook with notes from the improvisational lesson of which one had vocabulary terms written in her own notes, while the other sketched and added labeling or “details” as a way to interpret her own findings. As for Agogó, the participant who pertained to the Living and Non-Living Things group, mentioned how she liked it and how things unraveled through “pretending.” All participants answered the teacher’s questions in the improvisational lessons, they all felt confident, and they all feel ready to teach science content. There was evidence that the identities of the participants were present as they sought ways to voice their characters as teachers as well important roles that embrace teaching. The *Fourth Wall* prompted the participants to create characters of teachers and students with given characteristics and implored on two improvisations which led the five participants to be go from novice to a maestra [teacher], to being a student to a Latina science teacher. The following elaborates on Interview 3 and discusses the themes that emerged. It is embedded as a conclusion from my chapter four.

Science Identity: Transitioning Through Action

The third interview will be in this section and consisted of seven questions that were aimed at the participants' perceptions of the *Fourth Wall* in tandem with their perceptions of the improvisational assignments in general and their relation to their emerging identity as teachers. The questions can be found in Appendix E. Interview three took place two weeks after Activity 3. I inferred on the arts-based activities that took place in reference to the embodied science teaching. The themes that emerged in interview 3 were Student as Science Teacher, Student as Becoming, and Student as Pedagogical Strategies. The participants were greeted through Zoom and conversations took place about their day. In this third interview, participants extended on their responses and more corporal expressions arose from this particular interview. For instance, all participants smiled when discussing science. Another participant bounced up and down from her sofa with much excitement as she started to talk about her ideas in science. In this interview, participants did not hesitate to respond and think about their questions. There was much enthusiasm, confidence, and as one participant claimed, "felt successful."

In this interview 3, participants explained how they "felt connected", "felt like the teacher" and "felt good" with the improvisational activities. The participants were interviewing from home except for Agogó who was crossing the border at the time that we started the interview. When asked if she would prefer another time to interview, she said it was the right time since she was going to be busy later. We managed to log back in to Zoom successfully after she crossed to the United States. In this interview, I noticed that the conversations included terms such as "improvising", "improvisations", "role-playing", as well as "transitioning." I agree with how the arts are powerful as they create a unique platform for creativity and interaction allowing responses to flourish in ways that are unique from other forms of human expressions and

experience (Griffen et al., 2017, p. 5). The following elaborates on each theme along with the supporting data.

Student as Science Teacher

Autumn was very happy with a big smile as she was being greeted on Zoom. When asked about the *Fourth Wall* assignment, she said she connected to her *Letter-to-Self* character. She played a student and said that she actually “felt like the teacher.” This improvisation, as she explained, helped her think quickly. I was struck with her responses since she had deep connections to this particular improvisation. Not only because she had expanded more on her responses compared to the first two interviews, but because her connections were meaningful. For instance, she says that “It connects because I want to improve my ways of teaching.” I think that this is very powerful. She discusses how these improvisations “keep you on your toes” and how one has to be prepared. Her favorite performance activity from all was the *Pulls and Pulling Through Zoom*, the one in gallery mode as she relates to it, since everyone came together as a group. She was intrigued how everyone reacted to their own character in the moment. Autumn talks about how good she feels with the improvisational activities. She also discusses how the improvisations can help teachers be ready to what they will have to confront with in the field. As mentioned earlier, this was the first time that Autumn had participated in an activity of this sort. She was very excited to let me know that that she will be incorporating these in the near future with her own students. Autumn has great ideas pertaining to what assignments she might do in science with improvisations. For one, she did not hesitate to respond right away when asked what the improvisations were like and if she thought that it connected to her letter. Secondly, she was connecting ideas with the improvisational activities really well. Autumn provides a deep

insight and discusses about her childhood memories with her family as well as to school that sparked science connections. She said,

...I think it connects because I want to improve my ways of teaching... I felt like I connected ...I had older brothers ...they played like baseball games, and I was under the bleachers and everything playing with dirt and rocks...the cold front came in and I'm outside, my mom would say, "Ponte la chaqueta" [put your jacket on] even like with energy like you run and you create heat and you will connect all those things from my experience of being in sports...we would pretend of making to be molecules by running in place and I was that energy...I would go play my soccer games. I was sweating... this is me creating energy...you were able to understand what was going on in the lesson... just like exploring about the molecule you get students to be into character...you get them to be liquid or the water...then they get into that character... you can have the solar system be in the middle then the students can separate it... and even like the days and the nights and how the sun in the moon shift the daylights plants and things like that and it's just so many things that you could do it like almost in any subject.

Autumn demonstrates her connection to science from the beginning while understanding that she needs to improve her teaching. She then gives credit to her person who played the role of the teacher in the improvisation and reiterates that she knew the information. Other than being excited, she was taking in what the teacher was discussing which she was embracing well. She does not hold back on responding and extends on her thoughts while making deep connections during the last interview. Autumn leads us through the childhood story of what happened under the bleachers when she would attend her brothers' baseball games while pointing to these connections. She connects to family and ties science vocabulary and content to the interview.

She mentions energy and insinuates how molecules and or the Solar System can be integrated into a lesson to be acted out just as Smith (2015) mentions that chemical reactions can be too. Science vocabulary as well as content topics are discussed which can easily expand to a teacher thinking outside the box while referring to how and what she can do with her ideas. Terms such as dirt, rocks, cold front, heat, molecules, energy, cycle, liquid, and solar systems were discussed in no time while giving way to possible outcomes if having to create a unit. It is evident that Autumn is making deep connections to what she learned throughout her childhood outdoors, in school, and to that of integrating her own material to her own lesson plan. What is also evident is that Autumn has demonstrated an obvious shift in identity where she now feels that she is not only strongly connected to science, confident, but is also an enthusiastic science teacher. According to Stenberg et al. (2014) “The developing teacher identities of student teachers not only affect their commitment to their teacher education, but also shape, control and form how they select information from their coursework and orient themselves towards future teaching” (p. 215). Autumn has proven she is committed to becoming a competent teacher and is embracing change through a positive role by wanting to inspire her future students. She not only being actively engaged through the process of motion of becoming a competent science teacher but is also engaging in prior knowledge as well as making deep connection to her innate understanding of the science content. It is then evident that Autumn has now transitioned from a student to a science teacher.

Stormy’s corporal expression is now somewhat different compared to the other two interviews. When asked what her favorite activity was and why, she immediately said the *Letter-to-Self* since this activity led her more to becoming a teacher. I then asked her to look at her letter once again. She began to cry. She mentioned that her letter was a hard one to write. The fact that

she was imagining herself already as a teacher, was a big accomplishment. When expanding on the *Fourth Wall*, she mentions how she played the role of a student and that she had a good teacher. She adds how the teacher played a short video clip and that she paid attention for when the teacher asked questions, she knew what to respond. Stormy refers to the *Fourth Wall* activity as one that encouraged her more and how she is not afraid of teaching science now. She also mentions a science lab coat which she suddenly became very excited about, one that will serve as a science prop in the near future in her classroom. It was exciting to hear what she had to say when asked how she felt and what she learned from the *Fourth Wall* and *Pulls and Pulling Through Zoom* activities. She recalls,

...not to doubt myself. Just do it...just have confidence... For science I want to just do something big. It's funny because I know I mentioned like in the last interview I think that it was a doubt like I missed a lot when it comes to science when I was in school in Mexico, and in the classroom, it didn't have AC, it didn't have like the colorful walls or the beautiful carpets. And when I come here it's like children classrooms like wow... it's like wonderland!...last year I had to take biology.... So, I had to buy my own lab coat... I said what am I gonna need this for?...I can use this if I get to teach... wow it was very interesting like I didn't experience that as a student we didn't have the means. It was just a classroom, and we didn't have tools, we didn't do those experiments so well when I see them it's like I wanna do that... I always have had this thing for science... I am not afraid of teaching science.... I am ready! ...I guess at the beginning when you asked science, I didn't know what to expect, I didn't like science. I want to experience that now it's something that I skipped that I've never experienced before and if I'm asked to teach science, I'm ready without even thinking!

Stormy has really elaborated on her responses, and this reflects on how much her identity has changed. As opposed to before, when she was shy and who would only extend a conversation to a certain degree, she now makes deeper connections and wants to elaborate on her thoughts. Throughout the last interview, she couldn't stop talking. Stormy begins by reminding herself that it is important not to have any doubts. If we recall in the first interview, she had many questions which mirrored her self-doubt. She moves to say, "just have confidence." Surprisingly, she mentions that for "science I want to just do something big." This is the participant who was reluctant to science, the one who didn't hesitate that she did not like science. Yet, her corporal expression as well as her tone of voice all aligned to her excitement when talking about science. She then reminisces about the transition from Mexico to the United States which she praises the American classrooms on how beautiful they look like being in "wonderland" and how lucky they are to have all the tools students need. She proceeds to mentioning having to take "biology" and purchasing a "lab coat" which she decides to keep in case she "teaches science. By this point, Stormy is overjoyed, full of excitement and seems to be filling in the gap of when she was in school due to the lack of resources. She will give her future students the opportunity to learn and now says that "I am not afraid of teaching science." Stormy brings up the "lab coat" again and her excitement continues to grow. She wants to make sure that she is "ready" to teach science and that she wants to give her students an opportunity to learn about since "it's something that I skipped." There is a noticeable shift in identity to not only becoming more connected to science but feels she can now teach the content without any fear of doing so. It is evident that Stormy is preparing through practice and proves to show that she has transitioned from being the student to a science teacher. There is a strong belief that preservice teachers must prepare through practices and serve as a foundation for shaping science identities

(Kier & Lee, 2017, p. 208). There is a theatrical effect when personifying characters through visual form whose meaning involves symbolic interpretation (Kiefer, 2003, p. 13). Stormy is indeed determined, happy, and feels ready to teach science. It is important for her to make it clear that she is ready to teach science and that she does not fear the content anymore.

Dreamy thought that the improvisational arts-based activities were good since they “made her think fast.” As she mentioned in interview two, she said that one must always expect the unexpected. Dreamy also extends on interesting feedback regarding differentiation in reference to Special Ed, Bilingual and GT as a sense to including arts-based pedagogy into the curriculum. The activity that she was most proud of was the *Fourth Wall*. Yet, Dreamy was frustrated at the beginning for not volunteering to be the teacher. Instead, she became the student who she describes as “annoying” when she claimed that “I try to be spoiled and annoying on purpose because she didn’t know what to expect.” When Dreamy was asked how she can incorporate arts-based lessons when teaching science, she first talks about the “real experience” then talks about outdoor teaching. Dreamy moves to take over the science lesson and begins by explaining what needs to be done. Her peers in the group abide by her instructions and soon become her own students while understanding that the movements being created are to better understand the lesson as part of a hands-on approach. Dreamy has now transitioned from student to a science teacher. She said,

Well once you’re in the classroom when you’re with a real experience I feel like you have more experience... I would’ve acted like there’s four seasons... they can go outside, and they can stay in little groups...you can give them pictures then one is going to hold the picture and then three students will be behind him...he has to show them look I found this picture, or this is the actual leaf or the tree. You know there’s always like procedures

and safety rules...another can be in charge of the safety procedures and make sure that everybody is following the procedures.

Dreamy begins to think like a teacher when she starts to plan accordingly for the four seasons and extends to outdoor teaching. She shares how her peers were acting in the *Fourth Wall* improvisation, and how they were acting as students. Dreamy indeed critiques and mentions how she would have been one of the four seasons which seems to have bothered her very much due to her facial expressions. She proceeds to explaining about ways to incorporate ideas by sharing an activity that includes pictures that leads students to a scavenger hunt. Dreamy then discusses terms such as procedures and safety rules. It is evident that there is a shift in identity to not only thinking like a science teacher but also problem-solving like one.

Red had the task to role play a student. She mentions how the student who portrayed the teacher in the *Fourth Wall* improvisation was a good one. She adds that the teacher showed a video on the planets and that her group had been asked to sketch them. She said,

The teacher was very well prepared explaining the class and providing interactive videos ...explaining all the details that you don't even know like as a grown-up. I didn't know some of the details that she provided for us...it was like the smallest planet and that they all depend on all the planets that we have and that some planets have moons and things like that... I like the sizes of the planets and she showed us a video about it... this way I got to know things that I didn't know when to explain to you and it was interesting...she also told us to write like a sketch of the planets and to show on the video camera...

because she was asking us questions individually like what did you learn, where did you get to know about this planet, and like show us what did you write in your notebook and

that in everywhere... I draw it. And went details by details, we went into facts of every planet... It was interesting because that way you get to have the attention of the students.

Red gives credit to the teacher who is not only well prepared but who taught the science material based on videos that they watched while extending on details. She emphasizes on a video which they watched on planets as well on the sketching of planets that gave way to extending on important details which led to facts. This strategy not only engaged the students to learn the science concept, but also served as a way to help retain information by writing and providing details. The improvisation activity can also then be tied to the *Letter-to-Self* activity where she enables her own created teacher character to give the power to integrate her beliefs and values. This can reflect and concur with Leavy (2020) when she writes “[t]he art can play a major role in teaching diverse subjects and getting through to people on deep levels” (p. 15). This is an arts-based pedagogical strategy just like the strategy being presented above when sharing how students are sketching planets which are giving way to extending on and providing important details. Red is also showing that she is a lifelong learner.

Just like the rest of the other four participants, Agogó played the role of a student. Just like the second activity of *Pulls and Pulling Through Zoom*, she said that they were caught off guard with the unexpected. She adds how she was very happy since she had learned a lot and that she knew what to say now. She talks about the activities as those who help with connections as well as being a good teacher. Agogó adds that she was excited with the activities and that she was also engaged to learn. When asked what it was like being a student in the activity she said,

I was feeling interested since we were in the zoom...she was making me feel like I was learning that I was excited from that... it was about living and nonliving things, so she was asking for examples, and I was thinking about myself like as a 23-year-old. I was

thinking how or what other thing can I say... we were giving examples and she used to pick us randomly so we needed to be paying attention. So, we were able to answer whenever she would ask us...so I was participating.

Just like Red, Agogó is excited and also relates to sharing the enthusiasm of learning all about living and nonliving things. She then relates to wanting to think as the “23 year old” that she is and shares all about the group engagement during the improvisation as well as how she was learning. Agogó also mentions how they needed to be paying attention since they were randomly being called on. Yet, she felt confident in answering the questions and elaborating on them. Agogó has been proactively engaged throughout her improvisational activities, yet as being one of the most quiet participant, she not only got out of her comfort zone, but was able to make connections while building on her teaching skills. As I observed this particular improvisation, she responded well and would give sufficient feedback to answer the questions that the teacher was asking. This can also relate to her *Letter-to-Self* as she created her teacher character with rich descriptions while elaborating on her vocabulary. Podlozny (2000) specifies that “[d]rama is an effective tool for increasing achievement in story understanding, reading achievement, reading readiness, and writing” (p. 268). She was no longer being quiet, instead, she took the initiative to be heard, stand for her beliefs as to what her opinions meant, as well as showed important steps towards becoming the science teacher.

Overall, the participants were able to connect with teaching science and demonstrated how participation was an important component to moving from students to science teachers. Participants felt more confident, excited, and didn’t feel scared, pressured, nor stressed as before with the improvisational activities. This serves as an important strategy to help them understand that there are various ways to learning. The improvisation then led preservice teachers to connect

with science through visuals, an auditory aid, as well as arts-based approach of role-playing to proceed with an improvisation. There were different emotions that participants dealt with such as Dreamy, who felt frustrated for not taking part in playing the role of the teacher since she didn't volunteer to do so. Throughout our conversation, she said that she felt she could have done a better job. She added that she is always going to regret not volunteering to being the teacher of the group. In comparison to the *Letter-to-Self* activity, participants were able to make meaning through self-written expressions. They delved deep into their emotions, referred to past lived experiences, and sculpted characters based on the teachers that they always wanted to be. In the *Fourth Wall* improvisation activity, participants became the teachers confronting their past fears of speaking in front of others while embracing the science content. They were eager to be heard and wanted to share their knowledge by placing their students first. Their teacher identity embraced change to that of a positive outcome to promote learning and motivation. Every person can be composed of multiple identities which need construction or reconstruction Danielewicz (2001). Teamwork was also evident in this activity since the original teachers allowed them to take over when they decided to step in. It was also evident in the *Letter-to-Self* since participants also had an opportunity to respond to their future-selves. In both activities, there was important dialogue taking place. Leavy (2020) says that "Arts-based practices can also promote dialogue which is critical to cultivating understanding" (p. 27). It was exciting to see all the groups being engaged while learning science through an arts-based approach. Their participation was eminent, and their engagement became essential in order for the improvisations to be a success. It is evident that the participants transitioned from being students to science teachers. They became more confident and involved in science as we moved through the improvisational activities, greater amount of verbal communication took place, as well as indulging in creativity when

sculpting their teacher characters. The following is the data from the second theme that emerged from the data.

Student as Becoming

In this third interview, there are various responses that can thread to this theme. The participants have taken part in the process of becoming through role playing and improvisation. One participant says that she likes how improvisations can promote different styles of teaching while another adds that using improvisations can lead to excitement. A third participant mentions how improvising can “keep you on your toes” and prompt you to think quick. The following shows how the data aligns to this theme.

Autumn reminds herself that she has to be prepared. And in order for this to happen, she has to be open to different ways to incorporate learning. Autumn discusses about the importance of making connections and how there will be some challenges that she as a teacher will have to overcome. This can relate to becoming a teacher. She said,

We didn't expect it so we didn't know we were gonna do this so the teacher at the moment was like oh I need to get things real quick and it's like how it can be in a teacher setting or in a school setting so you have to be able to think and be on your toes and be able to teach your students which gives you like a sense of why I have to be prepared for these kind of things... and it made me feel like I was actually in that situation... you need to know how to make connections with your students ...and still deliver your lesson at the same time so those are going to be some of the challenges that we are going to need to overcome. In order to be a competent teacher may be like saying let's go will be fully prepared.

Autumn recalls the unexpected moment of taking part in an improvisational activity with

a group. Just like other participants have mentioned, making connections with students is of utmost importance which enhances the process of becoming. This process of becoming aligns to teacher identity which is what the participants were transitioning to. Identity is never fully and or finally achieved since we tend to be actively being and becoming (Danielewicz, 2001).

Delivering a lesson while “being on your toes” is something she as a teacher will have to embrace on a daily basis. Autumn is now thinking and becoming a teacher when mentioning that she will need to be fully prepared.

Stormy has become more encouraged over the arts-based activities. She talks about herself being the student throughout the activities yet expresses how she should have volunteered to be the teacher. She adds how confident she is now, and how she “can do this.” Out of the five participants, she continues to mention how the *Letter-to-Self* has been the activity that has impacted her the most. However, she said that she feels confident now. She writes,

I think that I would’ve connected everything I haven’t had that opportunity yet, but I think I would have been like the teacher for that assignment, and I think I would’ve been more not like a shocking experience but falling into place with a letter going back like years and then being the teacher for that assignment... I like to analyze everything... just go with it don’t doubt myself ... We’ll have to push myself don’t doubt like if anybody can do it, I can do it just have confidence.

Stormy refers to what she could have done differently as a teacher. Instead, she played an attentive role-model student who gives insight as to what she could have done as a teacher. She adds that she likes to “analyze everything” and reassures not to “doubt” herself. She has struggled with this self-doubt since the beginning. However, she reiterates that she has to have the needed confidence. For this reason, in order to be a teacher, there needs to be confidence

which is part of becoming. Stormy shared before how the improvisational activities have helped her move from a student to a teacher. In comparison to the *Letter-to-Self*, Stormy begins her letter with much doubt by asking many questions in case she would fail as a teacher. Yet, the understanding of failure in relation to the construction of a preservice teacher's identity is necessary as experiences of failure have the power to define how teacher's see themselves (Lutovac and Flores, 2021). In responding to her last interview, she attests that the improvisational activities, have helped her gain confidence of becoming the teacher she needs to be. This is exactly what Stormy has transitioned to, a confident science teacher.

Just like Stormy, Dreamy played the part of a student. During the improvisation, she encourages her teacher and classmates to follow her lead. She shares ideas on what she has done in the past since she has substituted at schools before. First, she talks about the activity that was shared during the improvisation, then she discusses how the ideas can flow quickly, and finally becomes the teacher. She writes,

...students were able to connect to see what it look like when it was raining if it was raining, and we moved to the side, so we started to connect the seasons with movement... I guided the teacher through everything. I tried my best to guide her you don't know how much I regret not being the teacher. Like she didn't even know how to explain she was explaining to us like if we already knew everything, I feel like I would've explained it slowly. Something like OK guys, we're gonna talk about the first season. What are we gonna do? What are we doing? Its windy outside can somebody say anything I would've been ok I feel like I would've like already knew I would've gotten the hang of it a little bit quicker than her. it's because my ideas come really...I think fast.

Dreamy discusses the activities and then proceeds to making it clear that she guided

the students from the *Fourth Wall* improvisation but as she has been saying all along, regrets not being the teacher. She criticizes how the teacher taught and that she would have taught the lesson slower. Dreamy then gives an example of how she would have extended on the first season along with what kind of questions she would have asked. She finalizes by her mentioning, “I think fast” which is one of the main aspects of improvising. There is a movement from being the student to that of being the teacher who easily aligns to that of becoming. According to Stenberg et al. (2014) “A relationship also exists between the teacher and or fundamental issues, which deal with the values concerning the profession as well as the questions concerning the ultimate purpose of teaching” (p. 206). Not only because she literally took over the assignment, but because she engaged the students to feel connected to the actual concept through action. She has a sense of pride for thinking quick and for being able to problem solve. It is evident that Dreamy is thinking and solving like a science teacher.

Red shares how “keeping up with the story” is important. Indeed, tying the threaded dialogues in an improvisation is challenging if you are not an actor/actress. Yet, the participants, in this case like Red, has accomplished not only improvising, but has given life to a given character. She said,

...it was kind of a challenge because I don't know what to say or if I was doing it right but yet and you had to keep up with the story so it was funny yes that's what improvisation does and so you have to keep on right is there anything else you wanna add to that no I think that's everything that I really like that activity I think it was my favorite...I learned that you are always going to have like help... porque aveces hay unos estudiantes que le dan pena o algo y siento que estas lecciones dan un empujoncito y les ayudan para que se sientan menos nerviosos... Que si te esta explicando algo de ciencias

pues que te explique o tu que piensas de esto o piensas que esto sea posible, o si esto esta bien o mal con que el estudiante se saque de esa dudaosea pierde el miedo. [because sometimes there are some students who are embarrassed or something and feel that these lessons nudge you and help to relieve anxiety. That if there are explaining something about science then explain, or what do you think or do you think that this is possible or is it good or bad with the student in order to relive any anxiety, in other words lose the fear].

Red admits the challenge of participating in an improvisation. She also shares how it is important to keep up with the thread of the conversation. Red discusses how it is funny yet by her giggling can be a way to disguise the stress of the unknown. In comparison to the *Letter-to-Self*, the thread of the conversation with oneself. She was firm about her beliefs and convinced about what she wanted. In this particular improvisational activity, the *Fourth Wall*, she had to answer the questions that the teacher was asking as well as participate in a voluntary manner. Dialogue once again seems to take effect in both circumstances. Red seems to feel safe when she proceeds to speaking Spanish which is her mother tongue. She talks about students who might seem to be embarrassed when having to do these activities while feeling anxious. This indicates that this “student” is relating to her. She ends her response in Spanish to “lose the fear.” Red did like the improvisational activity as she mentions earlier in the interview, however this one “nudged” her to get out of her comfort zone. Even though Red did not get to play the teacher, she stood as a student and participated. Red then mentions how the *Fourth Wall* was her favorite activity. This improvisational activity has helped her move through the process of becoming. She experienced being with peers which can be equivalent to teamwork, engaged with other students, which she then posed as one, and finally embraced participation as to how she would be if she

were to be the teacher. Making choices, delivering content, as well as understanding that science was a unique, fun, and important subject to expand and deliver. Red had encountered many challenges since moving to the United States. Yet, her motivation to being a competent teacher helped shape her identity. The school environment, colleagues, administrators “can all be influential in shaping a student or new teacher identity” (Beauchamp & Thomas, 2009, p. 184). In reference to the arts-based approach is important due to the artfulness and the resulting work (Leavy, 2020, p. 32). Red’s commitment to embracing challenges and transforming these with emotions through the arts-based approach was evident as seen in her improvisational activities.

Agogó talks about having certain expectations from herself. She adds how she has been having fun with the activities and how she has been learning from these. Agogó also talks about making sure that she is going to implement these arts-based activities in the near future. She also says,

...it was really careful like doing the scenarios because sometimes we just start teaching or it could be a substitute or student teacher and we’re going to have some experience courses and occasions we will need to step out in a particular problem, so I don’t know how to see it. I think that this is like teaching us what is the right answer A problem or something that we’re facing to like that. So, I think carefully, and I don’t do a lot in these activities.

Agogó has been moving forward with losing the fear of speaking in front of others while participating in the improvisational activities which have given way to becoming. She has been afraid since she was young and has come a long way. By embracing the support of her peers in these activities, have also helped her understand the process better. In her response, she explains how it is important to understand that they “could be a substitute.” In reality, she is and for this

reason, I can see how she responded this way. By stating that you are “stepping out of a particular problem” you are problem solving. She is moving from student to making strong indications of knowing what the issues might be as a teacher. Olsen (2013) claims that “[s]tudent teachers undergo a shift in identity due to the range of experiences they gain in the process of becoming a teacher” (p. 208). Her identity has now shifted to that of a precautious teacher.

From the moment that one is improvising and having to respond to others, you are problem solving. A threaded dialogue is not the only what is taking place, but also the way that the person will be proceeding with the activity. One participant said how she feels that “I have to be prepared” along with “some of the challenges that we will need to overcome.” As for Dreamy, she talked about how the ideas came to her really quick. This is a skill and can certainly help with problem solving yet align to becoming. Agogó mentions how at times you will encounter a problem and that you will have to “step out in a particular problem.” Yet, some participants did share how they felt the need to be the teachers and so they took over the lessons. A few participants shared how they learned concepts. However, there is a uniqueness of every teacher’s approach to teaching that is shaped by personal teacher identity (Walkington, 2005, p. 54). Overall, the participants did move through the process of becoming. By delving in their past experiences, has made it possible for them to construct their own teacher identity.

Student as Pedagogical Strategies

Improvising identity, Role playing, and improvising is pretending. When given a role, there is a profound analysis that must be in depth when figuring out how a particular character is going to look like, walk, portray a specific tone of voice and integrate situational factors that involve a more detailed configuration of their specific background. Throughout the arts-based improvisational activities, all participants did pretend, improvised and made powerful meaning

of their identity (past, present, and future) in the moment. They got to interact with their peers and learn in a different way. The following refers to the data from the five participants.

Autumn starts with the discussion of how she relates to how improvisations help to connect with the character and how one can actually feel that you are the “teacher.” She says,

When I had to be like a little bit of how she was teaching. So, like let’s figure out how she’s doing things and everywhere... so now I’m going to think what if I’m going to see if they call me like what to do or how to fix that or something like that...you have to think about these things, and it made me feel like I was actually in that situation.

Autumn has now participated in the improvisations and has notion of what it is to improvise. Her identity has developed as she has participated in the arts-based improvisational activities. She expresses how she pays attention and how this is her best ally in case she is called on. This is why she mentions that “let’s figure out how she’s doing things.” This is analyzing her teacher, making way as to why she is teaching the way she is, then thinking of ways to improve the lesson. She then proceeds to actually feeling that she is giving life to the scenario and is in the moment. The pedagogical strategy is now accomplished. Autumn has given life to a character; she is still paying attention to her surroundings and is attentive in case she gets called on. In the meantime, she is processing taking part in an improvisation which one of the goals is to be in the moment.

Stormy discusses how she will be incorporating her lab coat which serves as a science prop to her science lessons. This can be identified as a strategy to where props can enhance a science lesson and to where students can identify their teacher as a scientist. She refers to her lab coat below when asked about if she would be incorporating arts-based activities when teaching

science. She then mentions she will and that her lab coat will help her to “be in character”. She says,

...that’s my next step to become the teacher it is something that I already see happening... if I get to teach that, I am going to be in character! I am going to be the scientist!

This evidence serves as a way to convinced Stormy that her science lab coat can enhance her teaching which represents a prop to the science content as well as a pedagogical tool. She finalizes by claiming that indeed she is going to be a scientist. Stormy has not only had the opportunity to play the role of a student in the improvisation but is aligning her science lab coat prop to that of a pedagogical strategy. I can concur to this example since as a former actress who played various roles in soap operas on television and plays, once my characters were fully dressed, they would become internalized. At times certain garments and or gadgets can help to be in character. This is exactly what is happening to Stormy, she is using her science lab coat to become a scientist. It can be interpreted as a form of practice in an authentic way. Experiencing in science practice can give teachers science knowledge and pedagogical content knowledge that can then lead into authentic science teaching (Cunningham and Helms, 1998). Stormy also had the opportunity to practice her ability in order to think like a teacher while discussing with class about their experience as well as giving raw feedback, which provides a guide to growth (Diez & Hass, 1997). Rich discussions took place in class that enabled students to not only debrief but reflect upon the improvisational activities that took place. Stormy’s identity has not taken form of becoming a science teacher that not only by delving into the science content but also to teach and elaborate on it without fear.

Dreamy talks about a good way to improve these arts-based activities and that is that she will by adding a script. What she mentions is indeed an excellent strategy. This is also tied to pretending since roles need ownership. Dreamy says,

...it's very important so as teachers it's always gonna be unexpected. One day you're gonna have this, you're gonna have that. You need to be ready for anything... I feel like how they can be improved if one could have a script.

Dreamy proceeds to mention how encountering the unexpected is important. She also proceeds to discuss how many things will be accomplished yet being "ready for anything" is a must. I really liked her suggestion and feel that by having a script, might give it a different twist since it would become part of a scripted role-play with given characters instead of an improvisation. Yet, her attempt of making this strong suggestion, is a very valid one. I like how Dreamy has not only had the courage but has discussed an important pedagogical strategy which is very valuable.

Red's data reveals other important aspects of the theme that has deep connections to teaching science. She brings in the conversation about connecting to peers in the field. This is important in the field of education since a teacher will have to work with grade levels. Red refers to them as "coworkers." She says,

I learned that you are always going to have like help from your coworkers... Yeah like the third activity somebody was helping was helping [name] and things like that was a teacher so in the future you know that you are also going to have that help from teachers so in the sense of... because I expect I have a good relationship with my coworkers in order to succeed in my job.

Red discusses the importance of teamwork. She also mentions how help can be attained

from coworkers, who can be compared to that of a grade level. She then refers to the third *Fourth Wall* activity, where there were existing groups and or grade levels who helped one another. This is important for her. Red has now embraced improvisation as a pedagogical strategy. Her participation in the *Letter-to-Self*, *Pulls and Pulling Through Zoom*, as well as the *Fourth Wall*, give way to learning in a unique way while being open to different styles to move through the process of improvisation. These are indeed pedagogical strategies that have included improvisations, dialogue, as well as building on problem solving. Leavy (2020) relates to the arts and believes that it does evoke emotional responses to that of dialogue which is a type of arts-based practice which has shown to be engaging. If we recall from Red's previous data in the second interview, help is what she has relied on in order to keep moving forward. Red was able to make connections between the improvisation to that of a real life grade level group, yet this connection falls out of the theme of a specific pedagogical strategy.

As for Agogó, she talks about how pretending is important. She mentions that even though she is a grown up, she can pretend. I can infer to this since in Spanish, “jugar a las mentiritas” [playing to pretend] was a common childhood game which is a way to pretend. Agogó said,

I think I said certain expectations from me like how it might be in the future like I want to be a great teacher already...that's why pretending to be a teacher it was like saying how I'm going to be in the future so that activity of pretending how you'll be as a teacher... they didn't know and at the end they asked and they said wow and I said yeah that we were pretending but thanks for paying attention to the class too... so I think...pretend it was fun and yes I'm a grown-up but I was also learning...I get to see somebody else pretending to be a teacher and how I felt like a student and that I had to be learning

something... So, pretending and doing scenarios I think that we actually learn something like different...It can help you learn because you're pretending to be a teacher or...like an actress, make it fun to get excited to present in front of everyone....

Agogó mentions pretending quite a bit in her data which is interesting. Let's analyze how she starts her response. To begin with, she is convinced that she wants to be a teacher. She mentions a "real experience" pertaining to that of being in the moment by comparing it to a given scenario while justifying that even though she is now an adult, she was having fun. The end in mind is accomplished, which not only relates as to the improvisation serving as a pedagogical strategy but one where she was in effect, learning in preparing to be a teacher.

Autumn talks about ways in which improvisations can help connect with the feeling of becoming a character since in one of the improvisational activities, she had the opportunity of playing a teacher. Another piece of important data comes from Stormy, who discusses how her lab coat can serve as good prop in order to "be the character." Characters also need external pieces to help them not only internalize who they are portraying, but also need these to help look the part. Improvisation can be understood as a type of pedagogical strategy. As mentioned earlier, characters not only need to know where they are coming from in reference to their background, and or given personification, yet they must also look the part. Participants did have a shift in their identities. Science at first was a content that three out of five were reluctant too, yet this shift occurred after they participated in the improvisational activities. They were more open to sharing their experiences, as well as being creative. There is an issue in the forming of teacher identity in science when learning to become an effective science teacher which is an ongoing and complex process that is similar to how teacher identity is shaped over time (Menon & Azam, 2021). Red is another participant mentioning how teachers face the unexpected and

must be ready for anything. This connects to an improvisation of being ready in the moment with quick responses to the unknown. Finally, there was important data that fell out of the theme. This is when one of the participants mentions “coworkers” as part of her connection to teaching. This proves that there is a sense of belonging to a grade level feeling as if they are already teaching in the field while establishing important relationships. The ways in which identities were evidenced, was through their responses due to the personification of characters and feelings becoming clearer in this analysis. The participants also had the opportunity to engage in important improvisational pedagogical strategies. The following discusses the points of departure from the chapter.

Points of Departure

In interview three I asked the participants about the improvisational activities, and these are the things they said, “they made me feel great”, “they made me feel accomplished”, “I feel like I learned how to thank yourself...like you learn how to love yourself”, “being confident!”, “those activities help me to grow not only in the personal but also professional”, and “motivate,” But I also noticed themes that were also salient across all data sources and the themes were language, care, respect, centrality of the teacher, and support. Across the data it seems that language was a big part in teacher identity. It was a more important part than I had ever anticipated. This seemed to be a very big part of Latina teacher identity that participants really wanted to talk about. Care also seemed to be very important to them. Something else was that they felt that science was not for them and were reluctant to it. Even though they felt this way, I noticed that they kept on going. They had a lot of respect for the role of the teacher. The centrality of the teacher was very important all across and was evident all the way through. This is clear when they were talking about their past it was dominated by their teacher rather than

themselves as teacher. There were some struggles of that role of the teacher. This is something that they wanted to be from early on and the teacher was central to their education. It seems to indicate that the belief across all participants that teachers were central to the experience to learning. The teacher was an essential player and they all expressed early and consistent desire to be a teacher.

This chapter highlights the data obtained through five Latina participants; Autumn, Stormy, Dreamy, Red, and Agogó who helped me gain insight to my study. These five participants, who are currently earning a degree in teaching, delved into three performances and three interviews which data analyzed, reveals major themes that reflect on their feedback pertaining to the arts-based pedagogical improvisations. The participants in this study had the opportunity to explore, collaborate, and embody characters with characteristic traits as well as embedding their own organic traits. There were important findings that did derive from performances, interviews of the participant observation as well as the data analysis presented in this chapter in order to understand the relevance of the data which reveals the purpose and the overview of the research process. There were important categories in my study; Teacher Identity, Latina Teacher Identity, Science Teacher Identity, and Arts-Based Approach to Teacher Education. The first category pertains to Teacher Identity which findings emerged through the lessons that helped build relationships with themselves as well as with their peers while engaging and constructing their own identities (McDermott, 2002). The improvisations also help build a commitment to their teacher identity development in science (Lew, 2016). The second category corresponds to Latina Teacher Identity which also had two important findings. First, the participants struggled with their identity when referring to their past teacher education (Avery & Meyer, 2012). The improvisations gave way to their teacher identities, linguistic, science content

as well as with the construction of their future-selves (Eisner, 2001). In reference to the third category, Science Teacher Identity, also had two significant findings. The improvisations served as a “powerful lens” for the building of their science teacher identity as well as for the delivery of science content-based lessons (Avraamidou, 2016). And as for the second finding, the preservice teachers also embodied science teacher characters when taking over the characters from the Fourth Wall activity while building on an apparent confidence (Chen & Mensah, 2018). As for Arts-Based Approach to Teacher Education, there were also two findings which first consists of improvisations servings as a bridge to connect their current and future identities while engaging in purposeful performances while examining each other’s work (Norris, 2020). Lastly, the activities led the participants to transition from science students to science teachers helping unravel and shape their science teacher identity (Kier & Lee, 2017).

This study attempts to acquire a richer understanding of the importance of arts-based improvisations being implemented as a pedagogical tool in science and teacher education while imploring on teacher identity. The research findings addressed the themes as well as the overall findings relevant to the research question(s). There are three sections that include data from three performances as well as the themes that emerged in each interview along with data collected based on participant observation categorized into themes. These themes were generated for each participant in each round of the interviews then were analyzed across participants and across interviews. Chapter four findings indicated that improvisational activities not only provided meaningful and enjoyable experiences, but also served as an arts-based pedagogical tool in teacher education. As a researcher, I gathered data from their actual statements through interviews, but also interpreted their corporal expressions which. Observational data indicated that the three arts-based improvisational activities, were meaningful and innovative to the

participants, and imperative for the development of their teacher identities. In chapter five I look at these findings as a whole in relation to my questions. The following chapter now begins with the significance and implications in my study.

CHAPTER V

SIGNIFICANCE AND IMPLICATIONS

Wow. Quién hubiera imaginado que llegamos hasta aquí? Remember how you were ignored in school for not knowing English? How about the times you had to sit at the back of a classroom for not understanding the language? But wait. I was ridiculed. I was embarrassed. I was even bullied. No wonder you were shy and quiet! I even failed and didn't graduate with my peers. No me importa, yo termino porque termino. Yo puedo! I felt awful. I would feel relieved when playing soccer. It made me forget everything and everyone. But don't feel bad. You were simply trying to survive. Everyone else was settled, they understood the language, and they weren't made fun of. I wish my mom would have brought us over here to the United States before but instead she waited until my senior year. Hey, why did you try intimidating me? You made me sign, you made drop out. But that didn't last long huh? ...I had an advocate. I graduated. I respected my teachers that's what I was taught, yet why did you all ignore me? I didn't want to feel frustrated. I wanted to be part of the class. I hated that class! I didn't think science was easy, it was so hard. I just didn't understand the terms. Why make me be somewhere where I didn't want to be? Amazing! Thank you for changing my life, for allowing me to feel welcome. Gracias por ayudarme, por creer en mí, por impulsarme a seguir adelante. You're the best teacher! You believed in me! You never put me down! You pushed me to be better, to want to be somebody! I am not hurt anymore. The pain is left behind. I liked interacting. Yo también. I got to be the teacher. I cried and cried...I struggled but I wanted to be her, the great teacher. It was always in me. I am somebody...I am the best teacher. I love my science lab coat! I did it ...this is neat! I know my science. I get to be who I always wanted to be. Claro que si se pudo! See me now? I am the best teacher...I knew I could!

The above monologue synthesizes key findings regarding identity from interview and performance data gathered over the course of this study from Autumn, Stormy, Dreamy, Red, and Agogó's. Here I weave common threads from the experience of my participants into one composite in order to offer a snapshot of some key themes and findings that I elaborate on in chapter 4 and which directly address the purpose of the study and the research questions that framed it. This study delved into two questions seeking insight of how do preservice teachers at a

large HSI wrestle with issues of identity through theatre-based lessons aimed at imaginative

engagement with their current and future identities as teachers and learners? Further, in what ways do Latina preservice teachers embody the transition between a science student to a science teacher when engaged in arts-based improvisations?

The first research question refers to preservice teachers from a large HSI and how they molded their identity while participating in theatre-based lessons that pertained to improvisations as their current and future identities as teachers and learners. The second research question addressed the ways in which Latina preservice teachers embodied the transition between a science student to that of a science teacher while participating in arts-based improvisations.

This chapter discusses key findings in relation to the above questions and the significance of these findings in relation to literature. I organize these findings into three categories: Latina Teacher Identity, Science Teacher Identity, and Improvising: An Arts Based Approach to Teacher Education. This chapter also discusses implications for practice and further research.

Latina Teacher Identity

Three out of five participants of these came to the United States speaking no English. Two were already in the United States yet also struggled in school since their first mother tongue language was Spanish. Interview data revealed that the transition was a very difficult one for participants, and more specifically, it was hard for them to have a sense of belonging. Some these participants were ignored during their schooling years, while the other participants felt bullied and were ridiculed not only by peers but by their own teachers for not knowing the English language. This sense of alienation from peers was revealed most profoundly in the first interview and *Letter-to-Self*, but crept into other performances as well. As we moved through the arts-based improvisational activities, study participants not only seemed to participate more in dialogue, but also expanded on a sense of appreciation for the arts.

The feeling of not belonging have stood as obstacles in the learning process of the participants and they have struggled linguistically. Due to the linguistic struggle, these participants were shy and quiet. According to Irizarry and Donaldson (2012) there is a concern “[a]s Latinas/os from all backgrounds are underrepresented in teaching, strategic essentialism serves as a valuable heuristic for research aimed at diversifying the teaching profession and improving the educational experiences and outcomes for Latinas/os and other students who have traditionally been underserved by schools” (p. 160). It is then important to help Latinas explore on teacher identity. I concur with Morales (2018) who argues that there needs to be enough support for Latinas in order to be able to transform and adapt to an identity. Yet, teachers can have a strong impact in making this happen. Yet, the participants’ experiences in reference to support these experiences allowed students to act-out self-doubt connected to early school experiences that their interviews revealed. These performances also gave them a chance to imaginatively “talk-back” to the teachers they describe as “mean” in the interview data of their past as a sense of belonging. The theatre-based lessons created a space where, in contrast to the early experiences with linguistic bias they describe in interviews, participants to express and construct identities that built on Spanish. As we may recall Autumn for example, was excited and felt not only “awesome” but “accomplished” when improvising. This was the participant who at some point in her schooling got ridiculed by a teacher for not knowing how to read in English and laughed at more than once by her peers. The one who would struggle to be understood in class due to her pronunciation. As she and the other participants explained, the theatre-based lessons helped them gain the needed confidence to step into the realm of imagination. This imaginative engagement required participants to develop teachers as characters and in so doing wrestle with what it means to be a teacher. What is significant here is that all of

these characters were portrayed as good teachers. In a sense, these improvisations seemed to allow participants to flip the script of their past educational experiences in which their language identity as Spanish speaking was not supported. Improvisational activities described here, created a pedagogical space for participants to build on this identity experiment with becoming a the kind of teacher they wish they had and embody this teacher, in contrast with their experience as a student as good.

Improvisations also created a space for participants to connect to their earliest desires to identify as a teacher. Particularly in the first interview, participants described "playing" teacher when they described pretending *ó cuando jugaban a las mentiritas* with their moms, siblings, and cousins. Further, several participants expressed that even as children, they knew they wanted to be "that teacher" who would care and nurture her students and not mimic in contrast to the teachers they experienced as mean. When "playing teacher" in improvisational activities, it helped them connect past performances and experiences to their roles as future teachers. This echoes Forbes and Davis (2008) notion of teacher identity development "Teachers' role identity development relies on the ways in which a teacher envisions them or herself fulfilling the role of teacher through practice" (p. 912). Improvisational and theatre-based activities allowed students to not only "play teacher", but also to envision and play with notions of fulfilling the role of the teacher. For example, improvisational activities not only allowed preservice teachers to transition personally from student identities weighted down by "mean" teachers, but such activities also helped students envision and embody their identity as professionals. As discussed above, participants developed and embodied characters of competent teachers who also exhibited a care for students—a sense of care that data indicates they did not experience as students. Underlying these characters was also a sense of emerging understanding of professional

competence. As the semester progressed, participants increased and performed competent as well as caring teaching. This was the pivotal moment in which “playing teacher” also allowed them to embody professional as well as personal growth. Likewise, interview data reveals a sense of emerging professional growth. For example, the participants expressed how the improvisational activities made them “grow” not only at a personal level but also to a professional level. The characters helped the participants engage to becoming accomplished individuals who were not only paying it forward but were providing a safe haven for themselves.

While pretending to be good or performing competence does not make it so, data does demonstrate that improvisational activities did create a space for student to envision a level of personal and professional growth that stands in contrast to their experiences as students of “mean” teachers. As Battey and Franke (2008) write “How one thinks of herself is conceived of in relation to a particular context, with a particular history, with others who have ideas about themselves” (p.128). Findings from this study highlight the need for pedagogical spaces in which students for students to conceive and reconceive the role of teacher as they experienced it as a student and recast it in their own image as a good future teacher.

While discussion in this chapter has so far talked about the transition from student identity, Stenberg et al. (2014) remind that teacher identity is really a set of “identities” as “I as a pedagogue, I as a didactical professional, I as a subject matter expert, I as a member of society and so on” (p. 206). The following section takes up Stenberg et al. (2014) notion of the “I as subject matter expert in its focus on Science Teacher Identity in transition.

Science Teacher Identity

Data from this study reveal how the five participants had different experiences as science students. Three out of five of my participants came from Mexico in which Stormy discusses how

her school did not have the resources as compared as to the schools in the United States. Autumn talks about how she connected to science thanks to the hands-on activities that took place when she was young. As for Dreamy and Agogó, they mention Middle School as a mode of connectivity with science. Yet, it was not enough. They were missing the foundation. Chen & Mensah (2018) identify the challenges preservice science teachers face such as low-self efficacy, self-confidence, and pedagogical content knowledge through the development of elementary preservice teachers and science teacher identity. Enyedy et al. (2005) claim that “[i]f a teacher is aware of their identity as a science teacher and how it is linked to their practice, they will have more “control” over changing or adapting a current teaching practice and be able to use their identities as a compass to navigate teaching dilemmas” (p. 92). This is significant because preservice teachers need to understand about the importance of adapting to a given curriculum while being conscious of best teaching practices. As a result of this, through adaptation to certain situations linked to a preservice teacher’s practice, a purposeful opportunity of transition can take place. According to Menon & Azam (2021), “The development of science teaching identity is informed by preservice teachers-personal histories, particularly their experiences with science teaching and learning.” (p. 559). The participants experiences were truly meaningful for this study.

Interestingly, from my five participants only two liked science. During the first interview, they discussed how they were scared of science, didn’t know the science terms since they were too hard, or simply because their schools in Mexico were very different from the ones in the United States or because their school in particular lacked the resources. The two participants, Autumn and Dreamy, that liked science, said it was fun and engaging since they both were involved in making hands-on science projects. It is important to mention that in developing a

teacher identity, the ability to think like a teacher invites consideration of learning and teaching approaches. (Lutovac and Flores, 2021). In regards to the five participants only one felt ready at the beginning of my study to teach science. The rest mentioned either that they needed a refresher course in science and or simply needed to learn more elementary basics.

The participants engaged in ways to embody the roles of characters that embraced science specific content. This can mirror that of an improvisational dynamic ongoing action (Douglas, 2011). The arts-based activity that delved in the most into a science oriented lesson was the *Fourth Wall* where preservice teachers had the opportunity to play either a teacher or a student. Every one of this study's participants volunteered to play the student. Yet, important moments emerged to where three of them took the lead as teachers during the improvisation. One of the participants was very frustrated for not volunteering to play the role of the teacher and for this reason became somewhat "annoying" as she described when the student being. Here we see that "playing teacher" involved more than pretending to be a "good" and "competent" teacher, it also involved a transition toward a subject matter specific identity. While data from this study regarding science specific identity is not as abundant as that expressed in more general themes, improvisations did allow future science teachers to embrace science content, while interacting with peers and gave participants the opportunity to embody the transition from being a science student to a science teacher. Dreamy, the participant who was frustrated for not volunteering to be the teacher, mentioned things like "I tried my best to guide her" or "I regret not being the teacher." She would tend to rebel and still have an outcome that was an accurate one in regards to the topic and or motion of being through characterization. By now she had confidence, took over, and believed that she could do better since she had a different approach which was through movement. In addition, Dreamy always mentioned differentiation. In this particular lesson

[*Fourth Wall*] she specifically mentions how the teacher didn't bother to care to differentiate for Special Ed, Bilingual, nor GT. This was a clear way to embody the transition from a science student to a science teacher in an arts-based improvisation. As for the other two participants, they took the lead but in a different way. Autumn and Stormy, slowly but surely transitioned to becoming the teacher and the students were led to science specific content. This was another way in which the participants embodied the transition from a science student to a science teacher in an arts-based improvisation. Whether it was coming from what they had listened throughout their lesson, from their notes, and or from what they already knew, all participants embraced science in a positive way making deep connections to meaning while improvising.

It was interesting how participants became engaged in thinking of ways they could engage their future students into adapting some of the science content to other improvisational activities. Other participants referred to the *Fourth Wall* and simply expanded on how she would teach her future students recurring to the science concepts such as the Solar System and also include arts-based improvisations. Autumn shared how students could definitely “interact into the lesson or any kind of science activity.” Her responses led to important feedback as to how her future students can emerge into delving into science content while giving ideas on what types of activities she could possibly use in her classroom. It must be stated that these responses came from Interview 3 and she did not hesitate to respond to any of them. In other words, no wait time had to be granted. Instead, her responses were internalized and knew exactly what she was saying and how she was going to deliver her point across.

This section refers to the interweaving of themes and how participants came through with their struggles of identity to that of transitioning from a science student to a science teacher. There are authentic ways in which we can learn and create fundamentals of knowledge.

Experiencing in science practice can give teachers science knowledge and pedagogical content knowledge that can then lead into authentic science teaching. (Cunningham and Helms, 1998).

When they were first asked if they liked science, two out of three only answered yes. The only two participants who agreed to liking science was Autumn and Dreamy. Others went on to say how challenging it was for them to learn the vocabulary terms which in relation to this, had a hard time understanding important science concepts. All participants preferred learning science through the hands-on approach since they felt it brought connections and was the easiest way to learn for them. For one participant in particular, Stormy, she compared how science classrooms looked in contrast to her school in Mexico. Adding to her comment, she acknowledges how beautiful the classrooms in the United States looked along with how lucky students are in the United States for having all of the tools needed in order to learn science.

Now, we know that their experiences in schools have not been the best. In fact, these experiences, had tainted part of their identities. Improvisation gave students a way to confront and recast these science specific educational experiences and in so doing allowed them to embody teacher as science subject matter expert whose struggle with science vocabulary need not interfere with competence. As mentioned earlier, participants had a hard time understanding scientific terms since they were trying to learn the English language. For this reason, there was an existing linguistic impediment that hindered learning in science. Yet, this linguistic impediment was one that a couple of participants tried doing away with while incorporating their own strategies by incorporating student journal notebooks where vocabulary and labeled drawings helped them to learn concepts. Evidently, due to the circumstances, participants then have struggled to find their own science identity. Interview and performance activity data

indicate that performing the role of science teacher allowed them to reflect on these strategies and incorporate them into their emerging identities as teachers

Interview data also indicated that support often came in waves and in different points of their schooling. Stormy was a participant who later in college held on to a science lab coat which helped to her to assume the role of a biologist when in class. One prop which she claims that she will hold on to when she becomes a teacher in the near future. Data regarding the transition from science student to science teacher did not emerge fully until participants became engaged with the pedagogical improvisational activities. Throughout the improvisational activities, the five participants were engaged while learning differently and having fun. Their science identity was starting to develop at their own pace. Participants were taking part in embodying science teacher characters. All of the participants had a notion of how to create these characters while engaging in science. It was evident that there was a subtle movement that was beginning to emerge from student to science teacher. These participants had a positive mindset when creating their science teacher characters during the improvisational activities since it was evident that they wanted to take over the lessons when participating in the *Fourth Wall* activity. I concur with Avila (2019) when saying that “[s]tudent’s identities are negotiated through activities and interactions and mediated by the discourse within the classroom contexts” (p. 210). For this reason, it is imperative that appropriate and aligned activities are embedded in the school curriculum. Just as in Chapman and Feldman’s (2017) study, my participants were allowed to develop an authentic science lesson that prompted them to feel legitimate members of the group. This authentic lesson refers to that of the *Fourth Wall* where they were teachers and students who portrayed the characters of teachers leading a lesson in science. Yet, there is an issue in the forming of teacher identity in science when learning to become an effective

science teacher which is an ongoing and complex process that is similar to how teacher identity is shaped over time (Menon & Azam, 2021). Due to their own study, the authors further explain how building confidence in science teaching helps in developing science teacher identity. The following elaborates on Improvising: An Arts-Based Approach to Teacher Education.

Improvising: An Arts-Based Approach to Teacher Education

Applied to teacher education, improvisation, allows preservice teachers to construct and interact with personified examples of identity. With this in mind, improvisation is a type of performance. Relatedly, “Performance and performativity, write Phelan and Lane (1998), are braided together by virtue of iteration; the copy renders performance authentic and allows the spectator to find in the performer ‘presence’” (p.10). As applied to my study, this suggests that the performativity of improvisation might allow students and me as their teacher to engage in and embody questions of “what would I do” jointly as a key process of identity development linking current identity resources to future practice. The data pertaining to the interviews reflects on the participants’ experiences during their improvisations that took place with their three arts-based activities. Participants did encounter those “what would I do” moments where improvising took place. In the interviews, they discussed how the improvisations helped them to problem solve. Without a doubt, participants were faced with quick acting decisions when improvising. The interviews also relate to how the transformation to future-self took place. The participants described in detail what the process was, what it was like, and how they were excited to be that teacher that they want to be. They expressed excitement of who they were becoming. Lee (2015) discusses the ways drama based pedagogies promote process-oriented approach to teaching and learning in which students embody transformation from current to future selves or other possible selves.

All of my participants mentioned how they had never experienced any class that included any arts-based improvisations. There were three out of five participants, Stormy, Red and Agogó, who were mostly shy and whose personality struggled a bit to give way to pretense. Yet, all participants were eager to learn and engage in the arts-based activities by participating. Two of the five participants who were Autumn and Dreamy, were never shy and would always tend to initiate the improvisations if someone would get “stuck.” They would intervene and help their peers. Little did they know that this was a way to thread to an improvisation. In the *Pulls and Pulling Through Zoom* activity, participants were engaging in continuing with the conversation from where one of the roles would leave off. As participants said, you had to “think quick.” Red was one of my participants who at times would be shy when speaking in class. Yet, when asked which one was her favorite activity, she said it was *Pulls and Pulling Through Zoom* “because it was like with everyone.” She felt secure with the rest of the class participating and knew that it was alright to take risks. Even though it might have been somewhat of a challenge at first because of the language, Red was able to make important connections. In reference to her *Letter-to-Self*, she reinforces how she will be a good teacher. Those connections arose when her “goals of graduating” and becoming a teacher were met. Red understands that struggles exist and is happy acknowledging how the letter that she “wrote 10 years ago” was motivating and worth it.

One promising avenue is arts-based approaches such as Anderson, (2004); Bhukhanwala et al. (2017); Ewig and Hughes, (2008). An arts-based activity such as improvisation, can demonstrate to have a variety of positive impacts. According to Anderson (2004), “[d]ramas do not sharply distinguish between actor and audience; the learner is both participant and observer, playing a role while interacting with others in role” (p.282). He suggests that after engaging in problem solving while in role, there is a way to step out of this role and proceed to examining

prior thinking in a critical way. By participating in role playing, the senses are activated through mere observation and participation.

Stormy embodied the transition from a science student to a science teacher more than once throughout her arts-based improvisational activities. When participating in the *Fourth Wall* improvisational activity, she played the role of a student. Yet, I observed how engaged she was and how she was taking over the lesson with the explanation as to how she was giving feedback on the Solar System. Without the intention of doing so, she ended up being a teacher. She had participated in arts-based improvisational activities that she had never done before and was excited to incorporate a science lab coat that would not only bring a smile to her face, but according to her, will soon be used with her future students. Her intent of proceeding with using a lab to be a scientist, can be tied to an evoked emotion. I concur with Konjin (2000) when claiming that “An emotion evoked in the imagination can, however, result in behavior” (p. 94). Stormy persists on sharing that “she is ready” to teach science. I recall Stormy immediately saying in her first interview that “No I do not like science!” Stormy has now changed her mind and as she mentions is apparently more confident, excited, and ready to teach it.” Her lab coat has added to this excitement and will serve as a prop in her future classroom. I was struck when Stormy said, “Hopefully I can close that gap when I teach science.” I could relate to being somewhat “in debt” to the science content for not understanding it well before, but perhaps ignoring it due to the circumstances already mentioned.

The arts-based improvisational activities served as an important platform for all participants to introduce them to an arts-based approach to teaching. The participants in this study had various opportunities to engage in arts-based improvisations. They did participate in

Letter-to-Self Activity 1 where they wrote a letter to their future self and was read by another classmate who took the letter and wrote back as the same person ten years in the future. In this activity, participants engaged in writing a letter to their future-selves. Two out of the five participants had a very emotional experience writing their letters. I had to pause and wait for both participants since they were too emotional. When asked if we should proceed with the interview at a different time and or date, they both refused. Stormy made sure to get her Kleenex box on the second time she cried. Dreamy cried the first time and then bawled the second time which is something that truly surprised me for her to get to that extent. They both were very apologetic, and I simply gave them their time and space to start up again. Both of these participants embodied the transition between a science student to science teacher.

The second improvisational activity was *Pulls and Pulling Through Zoom* Activity 2 which is an extension to *Letter-to-Self* where Zoom served as part of our set using gallery mode giving the opportunity to respond to the letter through improvisations. And lastly, the *Fourth Wall* Activity 3 where preservice teachers were given specific prompts to follow with given characteristics of a teacher and students to role play in detail. Preservice teachers were randomized and separated in Zoom breakout rooms. All three improvisational activities prompted students to engage in a different way of learning. My participants talked about how they will use arts-based improvisational activities with their future students since they liked it so much. Like Gee (2000), Robinson, et al. (2005) see identity as socially constructing as shifting. As they see it, identity of a teacher at a professional level can actually be reconstructed by the influence of their peers and team members. To this end, arts-based activities can help sculpt identities.

This section is an attempt to demonstrate how it interwove in each one of the subthemes found in this study. One of the purposes of this study is to explore the role improvisational activities might play in engaging preservice teachers in powerful “as-if” scenarios in which they draw from identity resources of the present to experiment and embody pedagogical possibilities and future identities as science teachers. According to Anderson (2004), improvisation gives the learner a unique way of acquiring knowledge through a combination of embodiment and imagination. In this study, arts-based pedagogy is a way of engaging students in purposeful, improvisational performances of teacher-identity that raise awareness of a multiplicity of possible pedagogical identities. Bridget & Cawthon (2015) reminds us that “If preservice teachers are not exposed to the practice of that arts integration and/or they do not identify themselves as teachers who will use arts-based approaches, then they will likely dismiss this research-based pedagogical approach” (p. 5). The participants had the opportunity to identify themselves as teachers using pedagogical arts-based improvisational activities.

The participants in the study had never participated in any type of improvisational activity prior to my course. This made this study even more interesting since I would be implementing first-time arts-based activities in which they would be taking part in. In regards to belonging, participants were set aside and simply looked at as a lived experience; one in which they learned from. Participants mentioned that they did not want to replicate any of those mean teachers who at some point made their lives miserable. Even though participants were reluctant to science at some point of their schooling, improvisations helped pave the way to a different kind of learning. Such accomplishments pertained to success, feeling positive, and understanding science concepts better. However, they wanted to pay it forward thanks to those teachers who did make a difference in their lives. The opportunities that the participants embraced while

learning about arts-based improvisations, led to innovative ways of learning science concepts, but also ways in which their identities were unfolding from a science student to a science teacher. These improvisational activities led to becoming a motivated teacher, as well as professional and personal growth that captured different modes of learning. The participants were now improvising, using judgement of their own decision making in the moment. All five participants were able to interact and respond quickly through the *Pulls and Pulling Through Zoom* and *Fourth Wall* activities. As for the *Letter-to-Self*, the participants engaged in creating their future characters as teachers which they all became good educators. There was a positive mindset and disposition from all of the participants to not only try something new and “unexpected” as some of the participants said, but also learn from becoming a good teacher through the engagement of improvisational activities.

The improvisations gave new meaning to learning and becoming a character of whom they wanted to envision. Participants were very connected to their improvisational activities and felt great, motivated, as well as confident. In regards to the *Pulls and Pulling Through Zoom* activity, they were able to make those connections through teamwork while comparing, as Autumn would say, “this to that” of working with grade levels. I can compare this experience to Rodriguez et al. (2017) when explaining how peer recognition enable students to feel intellectually accepted by those around them prompting peer recognition as an important place in identity development. The scenarios that took place of being a teacher, parent, counselor, and principal, in the *Pulls and Pulling Through Zoom*, prompted participants to understand what can happen in the real world while applying their critical thinking and problem solving skills. Pretending to be in the moment allowed participants to engage in a sporadic way to the best of their knowledge.

The arts-based activities prompted for all participants to gain peer recognition through the improvisations. There were discussions that led to great conversations after their improvisational activities. The participants had the opportunity to practice their abilities in order to think like teachers while discussing after class about their experience as well as giving raw feedback, which provides a guide to growth. (Diez & Hass, 1997). These pedagogical arts-based improvisational activities led participants to transition from science students to science teachers which helped unraveled their teacher identity. The following refers to the future implications and future research. The following section refers to future implications to practice in teacher education.

Significance and Implications for Practice and Further Research

This study has general implications for practice about the power of improvisation and reflection. However, the focus of this study in relation to teacher education, particularly Latina teacher education of which most of the strongest implications come from there. This study also has other implications for practice that can be useful such as the activities that connect student's past experiences as a student and current student in teacher education and future plans could be very powerful tools. As an implication for practice, this needs to be integrated meaningfully and tied to key outcomes in the course so it can be part of the center of the teacher education work. We should be thinking about how we can help them engage more meaningfully in this transfer from student to teacher. By including arts-based pedagogical courses in higher education, students will benefit from a different, yet, engaging style of learning. Arts-based learning through innovative ways such as improvisations are clearly useful and can embrace change in a positive manner. It is important to mention that getting both the teacher and the student seemed to be beneficial to them and the opportunities for people to grapple the student's perspective as

well as the teacher's perspective and embody it. I suggest that again, it shouldn't just be reserved for general courses but would be useful thinking about a disciplinary content pedagogy in order to become a science teacher specifically. This is just another important implication to teacher education.

Some other implications can be terms of science and math. My data shows how participants were alienating from science since they were reluctant to it. This tied to their identity to who they were as people to their past, present, and their future. This seemed to be ensuring to them. They experienced this as an empowering process. Instead of just integrating improvisation to explore identity and tying this to disciplinary identities as well as to science teacher identity and to content pedagogy throughout courses is important. We should also be probably thinking about how we can help them engage them more meaningfully in the transfer from student to teacher.

Data from activity 1, *Letter-to-Self*, clearly has implications for teacher education in the following ways. For instance, students struggle with the language of instruction, in arguing or making the case for including linguistic diversity earlier in their education experience. But certainly, in teacher education it points to something that we need to tend to, more fully, in order to study struggles in Latina students particularly. This activity also demonstrates the power of the cycle of improvisation and reflection. That reflecting on their prior beginning of class can set the stage to let us know of their own experience when talking about teacher education in ways it was fruitful.

As for activity 2, *Pulls and Pulling through Zoom*, the data tells us that we need to pay more attention to teachers. Improvisation is a way in which students seem to enjoy it as well as it being a good pedagogical tool. Certainly, it seemed to have helped them with their identity. The

data also tells us that elaborating on responses from others can help with reflecting upon one's own actions. By responding to other's letters, as it took place in this second activity, allowed for this to happen. In the first implication for practice, identity is complicated, and we need to think about the methods or how we are going to do things. We need to incorporate activities that help them make that identity transition. Teacher identity is central to the teaching profession (Rodgers & Scott, 2008). This is clearly in the literature, and this is clear in my study. In this activity, by improvising teacher roles, they believed they were indeed teachers. They were clear on their science lessons that even included movements via Zoom that engaged them in hands-on activities. Just by doing this in the content of the course, added an extra element and value to their identity. This needs to be an outcome of teacher education.

In the data pertaining to activity 3, *Fourth Wall*, it is clear that there was a transition from being a science student to that of being a science teacher. This transition was a smooth and eloquent one that prompted enthusiasm with the science content. Preservice teachers were more confident, embraced leadership, and became more engaged with science content. According to Bolton, (1985) "[d]rama brings confidence and enhances the pupil's self-esteem." (p. 155). This activity demonstrates the power of improvising while giving way to building their self-esteem and also making meaning to each of their identities.

These kinds of improvisations are one way we can integrate into teacher education, but it might be useful in a way where it can be integrated earlier in the curriculum so that they can be doing some initial activities like the ones that we did in my class early on. It is clear that improvising in groups can give way to positive interactions with peers while prompting shy individuals to move towards a more engaging ambience. Preservice teachers could have easily experienced fear due to "real or perceived dangers within a classroom" while attempting to

comprehend course-related-content (Bledsoe & Baskin, 2014). Yet is evident that fear was not an option, instead risks were taken which helped shape their identities.

It clearly points that improvisations can be useful in a class and helps students be more reflective of themselves as learners and make those connections when applying it to their teaching. It is also clear that improvisations can contribute to important social interactions in the course which can give way to having different perspectives as to how they can engage their own students in their future classrooms. This study clearly points to the value of social interaction as a way to bring teachers together in teacher development trainings as well as the impact of what communication might bring to any given platform. This is evidently a way to be also better prepared in the field of education in order to serve students in a productive way. Improvisations are helpful as discussed in my findings in relation to Latina teacher identity and Latina Science teacher identity. There needs to be more attention towards teacher identity since it needs a bigger role in teacher education. In reference to the improvisational activities that took place, there was evidence that they perceived improvisations could improve their self-efficacy, as well as the connections that the participants made, as well as to those connections. The following elaborates on further research.

Further Research

I strongly believe that my study can give insight to help educational programs at universities to design courses that can help preservice teachers engage in different learning approaches. Bailey (1993) says that “[u]sing drama as a teaching tool can stimulate student’s curiosity.” (p. 127). While my study helped provide “tools needed to overcome perceived barriers for becoming successful teachers of science.” (Dabney et al., 2020, p. 94). Even though the improvisational activities were the first time participants participated in them, it helped to

encourage their participation and problem solve in the moment. Constructing teacher identity can “highlight the role of the context in teacher learning and development” (Avraamidou, 2014, p. 164.) For this reason, these arts-based pedagogical activities should be incorporated in more teacher education courses.

Further study needs to be done about the language and how it plays in Latina preservice identity outside of the disciplinary specific discourse of ESL and Bilingual education. As someone who teaches preservice teachers and as a former actress who has had exposure to various theatrical modes of learning, careful implementation of the arts-based activities such as improvisations, can be meaningful to curriculum. Toonders et al. (2016) reminds us that that drama is an unexplored tool in science education. This study has shared many promising activities, yet there is a lot of further study that can be done. Future research then might imply on promoting arts-based activities as a mode of inquiry for science and Latina teacher identity.

Further research can refer to that there could be a larger sample size. I studied my own class, but perhaps studying other people’s classes can lead to getting a broader perspective on how these activities can be studied with different populations. Getting more input by including arts-based approaches from this study in other people’s courses can be taken into consideration for further research. Another possibility is having to also look at ways in which this process helped preservice teachers perform on their Professional Pedagogy and Responsibilities exam or also known as the PPR and or other required teacher education expectation such a teacher work sample would be another way to do further research. Such exams have reflection sections that would be a way to see how it works with that and seeing how this process can help them perform better.

It would be interesting to see how these activities can be integrated into professional development which would be something to pursue. There could also be a kind of comparison with some of the artifacts they produced and the kind of performances they performed between a Science Education class and what an English Language Arts class produced. It would also be interesting to see if there is an interdisciplinary identity that begins to emerge or not. We need more studies about teacher identity. There could be power in imaginative activities that lead improvisations which then takes us to important reflections.

Further studies need to be done on the role that language plays on teacher identity outside the bilingual education. This can be done but it is not in the general discussions of the teacher identity. I know that language and identity are discussed in fields other than my own but were not in the general discussion of science teacher identity. Language is not part of that discussion in that literature, and it seems that in the context of my study, it plays a more important role. I think that studies that focus on that would be an important contribution to the literature.

Conclusion

This chapter includes a review of my study and a discussion drawn from the data gathered from five Latina participants who participated in three separate interviews. A discussion of my finding were also discussed along with shared implications for future research as well as implications for practice. In the section for implications for future research, I mention recommendations that I believe education programs can have a positive impact with their students. In the section for implications for future practice, I derive from my data and provide these as suggestions. There was evidence in this study that participants perceived improvisations to have been empowering on their growing confidence and their competence and their sense of self-efficacy seemed to have improved over time.

After the interviews were conducted and transcribed, I often found myself being upset at how participants were treated. Unfairly. During the interviews, I would write about their corporal expressions and would then analyze how these aligned to their feelings in the moment. When participants would refer to their past experiences which were at times negative, the nail biting would take place and or fist making which was striking to see. Their eyes would often get watery and at times they would cry. Not sob but cry. It is evident that emotions flourished and were captured throughout the interviews. It was exciting to see how the five participants engaged in unique pedagogical arts-based improvisations which led to important findings. It was also interesting to witness the improvisations and how these allowed for the participants to participate, and problem solve. As we kept moving forward with the study, I began to see the themes emerging. There were three major themes in this study that emerged which are Latina teacher Identity, Science Teacher Identity, and Improvising: An arts-based approach to teacher education.

This chapter discusses research findings of five Latina participants whose revelations fell into deep conversations. At times these conversations delved into unimaginable moments which led into emotional scenes. I discovered wait time to be our best ally. This is when we would have to stop and simply wait for participants to compose. They wanted to converse. I proposed to stop and meet on other dates, yet they wanted to keep talking. I let them be and I soon became part of their lived experience. I could feel how they were confiding in me...all five of them. They trusted me. Who would imagine that Zoom could carry such weight? It was our set, one that respected every moment in time. I recall our first interview sitting across each other looking at one another through a screen. The volume was good, we had our WIFI's going, and we were all engaged. It was the perfect setting to start building rapport. I was eager to get to know them and

at the same time, I wanted to start our pedagogical arts-based activities but knew we had to wait until it was time to do them.

Autumn was sporting a smile holding her coffee mug next to her bright, beautifully decorated Christmas tree. She was truly the morning person, she loved scheduling the earliest days and even like that, she would be smiling. Stormy was nervous at the beginning, but she would make sure to always be attentive while sitting at the edge of her chair while writing notes in her notebook. She would hide her smile with her hand making a fist, yet later as we moved through time, she would bring that hand down. She was always in a room at home that had white walls with a couple of frames hanging behind her. She would smile but would often cry. She would hold on to a pen which at times she would tap it. I noticed this tapping was consistent when conversing about her childhood. She would often get emotional and at times bawl. At one point she had to get up and start walking back and forth behind her chair just so that she could calm down. She was always biting her nails and when we would go deep into the conversations, she would hold her hair back and then cover her eyes while placing her elbows on the desk as she would sob. Red was also easily distracted and had different locations where she would interview from. The first interview took place at home yet would take time to focus and another interview took place on a massage chair in the middle of a mall. Agogó interviewed from home and was eager to comply with her scheduled dates. Interestingly, another interview took place in her car while crossing the international bridge. Just like Red, they both would meet with me until after 8:30p.m. via Zoom since they always looked forward to the late hours and I sure didn't mind. According to Dabney et al. (2020) "[t]eacher identity is important in the personal construction of barriers and supports." (p. 93). The participants were complying and at some point eager to meet each time. Upon building their own teacher identity, they encountered

obstacles would seek support either from peers or a teacher. Yet, I felt a strong connection with the participants of which I strongly believe they felt a sense of support on my behalf.

The second interview was also conducted from home using Zoom. Autumn kept up with her coffee drinking and could have been a perfect cast for a coffee commercial. Her background setting was a perfect winter backdrop while mine was a home office with a red wall. She mentioned how she liked the *Letter-to-Self* activity and that she didn't have any problems creating her character. Stormy interviewed from home as well and was filled with emotions when talking about her *Letter-to-Self*. She first started sobbing then cried since she expressed how this letter brought the hardships back to life and how creating her character made her feel accomplished. Dreamy was also at home and had emphasized that her mom was helping her take care of her son so that she could interview. She liked to laugh and joke around. But interview two got her crying and she was not embarrassed to do so. Red was at the mall when the second interview took place. I was somewhat hesitant to do the interview due to her location, but she said it was the best time, so I proceeded to interview her. She was sitting on a big black massage chair in the middle of a busy mall and was seeing people pass back and forth while everyone was doing their Christmas shopping. Agogó was comfortable in warmups, at home with good internet reception since at times this would interfere. She spoke a lot of Spanish and would then go back to speaking English. She would give each language time to express itself while responding to the questions. This valuable experience can be seen as some sort of craft. According to Leavy (2020) "Both artistic practice and the practice of qualitative research can be viewed as crafts" (p. 18). The participants have had an opportunity to engage in an "artistic practice" which has profound meaning to their past, present, and future. Dabney et al. (2020) have a strong point of which I connected with the practical experiences which can evoke

creativity. Preservice teacher programs as well as that of practical experiences “are integral components of the development of teacher’s identities” (Dabney et al., 2020, p. 93).

My last interview pertained to the each of the three pedagogical arts-based activities which took place in class. Autumn said she liked the *Pulls and Pulling Through Zoom* activity since this brought the group together. Stormy couldn’t stop talking about the *Letter-to-Self*, so this was her favorite one. Even though she broke down more than once because of it, she still liked it. Dreamy said she liked the *Fourth Wall* activity because you can have a choice to be either a teacher or student. Red preferred the *Pulls and Pulling Through Zoom* due to the interacting that took place with her peers. And lastly Agogó, who interviewed while crossing the international bridge, liked the *Fourth Wall* since she said it was the best way to learn through observation and also by participating.

These three activities mentioned, served as pedagogical strategies that helped sculpt the participant’s identity in this study. Mockler (2011) and Noonan (2018) discuss pedagogical strategies for sculpting teacher identity as part of teacher education. They agree that teachers need to have appropriate learning opportunities to fit their practice. The pedagogical strategies also allowed participants to have a sense of belonging. Having a strong sense of belonging can cause people to perceive high levels of meanings in their lives (Lambert et al., 2013). It is also important to mention and understand that in teacher education, there should be time as well as opportunities to concentrate on issues which fundamentally affect their future work, that is their personal beliefs about the moral nature of teaching (Stenberg et al., 2014). Findings from this study certainly demonstrate Gee’s (2000) central notion that identity is multiple and socially constructed. Indeed, the classroom moved to being an affinity group building on identity. The findings clearly relate the way preservice teachers struggled with their identity when referring to

their past teacher education. Yet, it was evident that the improvisation helped with the transition between being a science student to that of being a science teacher. When engaging in Activity 3, Fourth Wall, the participants soon emerged to being science teachers with specific outcomes and solutions to the improvisations that they were engaging in. The following elaborates on Latina Teacher Identity.

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APPENDIX A

APPENDIX A

Latina Preservice Teachers Embodying Teacher Identity through Improvisation

This action research case study is being conducted by Principal Investigator, Zulema Williams, Curriculum and Instruction Doctoral Student at The University of Texas Rio Grande Valley.

The purpose of this action research case study is to examine the role, arts-based instructional strategies, can play in supporting Latina preservice teachers' transition from science students to science teachers. While there is a lot written about preservice teacher identity and teacher education instruction that supports that identity development, there isn't enough literature on how teacher education can support Latina preservice teacher identity. The purpose of this action arts-based case-study is to explore promising arts-based pedagogies and to improve my own practice as a teacher educator of primarily Latina preservice teachers.

In order to explore this, I will be conducting three interviews about improvisational activities we did in the beginning, middle, and end of class. Below is a description of each interview:

After your informed consent is obtained, you will be scheduled to get a link that will be sent to you for a 30 minute Zoom interview consisting of five questions conducted in a password protected individual Zoom room.

You will receive an email to schedule your participation in the second interview consisting of four questions that will take approximately 45 minutes.

You will receive an email to schedule your participation in the third interview consisting of 7 questions which will take approximately 1 hour.

If you agree to participate in this study, you will be scheduled and be sent a link for the first 30 minute Zoom interview. You will receive a separate Zoom link for each interview. Remember, you can withdraw from any part from this study at any time. That means even if you agree to participate in the study you can withdraw during or after any of the interviews. Additionally, you can stay in the study but choose not to answer certain questions.

Interviews will be conducted individually via a private password protected Zoom room. There will be a separate and individual Zoom room for each participant in the study. This means it will be just me and you having a conversations about the questions I ask and no one else can accidentally get into the Zoom room during your interview.

I will be in my home office wearing headphones so that no one outside of me can hear your voice during the interview. *As a participant in this study, please be aware that certain technologies exist that could be used to monitor or record data and/or websites that are visited such as Zoom.*

All interview responses will be recorded via Zoom received will be and stored confidentially on a secure server that only I have access to. By selecting I Agree, you are giving me permission to transcribe these interviews. I will transcribe your interviews and give you a pseudonym (fake name) for the research. Storing these transcripts and your interview in separate password

protected files on a password protected computer and using a pseudonym will help protect your confidentiality so no one can connect your interview answers with your real name.

You must be at least 18 years old to participate. If you are not 18 or older, please do not participate. Participation in this research is completely voluntary and has no impact on your grade in this course and you are free to withdraw from any part of this study at any time. Choosing to participate, or choosing not to participate, or choosing to withdraw from the study will not affect your grade, your course experience or your standing in the course in any way. This research has been reviewed and approved by the University of Texas Rio Grande Valley Institutional Review Board for Human Subjects Protection (IRB). If you have any questions about your rights as a participant, or if you feel that your rights as a participant were not adequately met by the researcher, please contact the IRB at (956) 665-3598 or irb@utrgv.edu.

_____ I Agree _____ I Do Not Agree

Email script for those who were selected: This is the text of the email that will accompany the consent form that I email participants ahead of scheduling their interview.

Hello,

Thank you for your interest in participating in this study. Before I can sign you up as a participant, I need a signed consent form which I have attached. Then we schedule and conduct the interview. Choosing to participate, or choosing not to participate, or choosing to withdraw from the study will not affect your grade, your course experience or your standing in the course in any way.

If you have any questions about any part of the consent form or the interview process, please contact me at (956) 572-0798 and or zwilliams80@gmail.com.

Thank you,

Zulema Williams

Email script to those not selected to participate: This is the email I will send to individuals who expressed interest in participating but were not initially selected.

Hello,

Thank you for choosing to participate. At this time you were not selected if during the course of the study this changes, I will email you.

Thank you again for your generous offer of your time,

Zulema Williams

APPENDIX B

APPENDIX B

The University of Texas Rio Grande Valley

Zoom Recruitment Script

The following recruitment will be presented via Zoom by a third party.

Hello,

I would like to invite you to participate in an action research case study that explores the process of engaging preservice teachers in arts-based pedagogies of improvisation aimed at supporting Latina preservice teachers' transition from science students to science teachers. The researcher (Principal Investigator) conducting this study is Zulema Williams. In addition to being an instructor, she is also a student in the Curriculum and Instruction Doctoral program at the University of Texas Rio Grande Valley (UTRGV). As part of the program, she has to conduct a research study.

The purpose of this action research case study is to examine the role, arts-based instructional strategies, can play in supporting Latina preservice teachers' transition from science students to science teachers. While there is a lot written about preservice teacher identity and teacher education instruction that supports that identity development, there isn't enough literature on how teacher education can support Latina preservice teacher identity. The purpose of this action arts-based case-study is to explore promising arts-based pedagogies and to improve the researcher's, Zulema Williams, own practice as a teacher educator of primarily Latina preservice teachers. Your participation in this study can help lend insight that can improve teacher education.

If you agree to participate in this study, you will be scheduled for three interviews. A link for the first 30 minute Zoom interview will be sent to you. You will receive a separate Zoom link for each interview. You can withdraw from any part from this study at any time. That means even if you agree to participate in the study you can withdraw during or after any of the interviews. Additionally, you can stay in the study but choose not to answer certain questions. Choosing to participate, or choosing not to participate, or choosing to withdraw will not affect your grade, your course experience or your standing in the course in any way.

This action research case study has been reviewed and approved by the Institutional Review Board for the Protection of Human Subjects (IRB) at the University of Texas Rio Grande Valley.

In this action research case study setting, three interviews will be expected of each participant via Zoom. The researcher will be in her home office wearing headphones so no one can overhear the interview. There will be a separate and individual Zoom room for each participant so that no one else can get in and will be password protected.

In order to protect your confidentiality, all participants will be assigned a pseudonym (fake name). A pseudonym will also be used for the name of the institution of where the study will

take place. These pseudonyms will be used in interview transcripts and in the final research document. No real names or identifiers will be used in the recorded interviews. No one but the researcher Zulema Williams, will have access to the data.

Data will be stored without any identifiers that could link your identity to the transcript. Interview recordings and transcripts will be stored in separate encrypted files on the researcher's password protected computer. Storing these transcripts and your interview in separate password protected files on a password protected computer and using pseudonyms will help protect your confidentiality so no one can connect your interview answers with your real name. Interview recordings and transcripts will be deleted by the researcher after 3 years.

By selecting I Agree, you are giving the researcher (Zulema Williams) permission to record and transcribe these interviews. If you have any questions, you can contact the researcher at (956) 572-0798 and or at zwilliams80@gmail.com.

FAQ's

- 1.) What happens if I cancel an interview? No problem it can be rescheduled at your convenience.
- 2.) What happens if I don't know the answer to a question? It is alright. The researcher is interested in your experience. There are no right answers.
- 3.) What happens if I don't want to answer a question? It is ok. You can skip that question and go on to another question.
- 4.) What happens if I choose not to participate? Will this affect my grade? Absolutely not. Choosing to participate or choosing not to participate will not affect your grade, your course experience or your standing in the course in any way.
- 5.) What happens with my interview recordings? The researcher will transcribe the recordings. What that means is that the researcher (Zulema Williams) will listen to the interview recordings and write down her questions and your responses exactly as they were said. The researcher is the only one that will have access to the recorded interviews and transcripts. She will store the recordings and the transcripts on separate password protected files on a password protected computer that only the researcher had access to. Both the recordings and the transcripts will be destroyed after 3 years.
- 6.) Will my name appear in the study? No. A pseudonym, or fake name, that only the researcher has access to will be used in place of your name on all study documents. Additionally, the researcher will not use your name during any interview recordings.
- 7.) You must be at least 18 years old to participate. If you are not 18 or older, please do not participate. Participation in this research is completely voluntary and has no impact on your grade in this course and you are free to withdraw from any part of this study at any time. Choosing to participate or choosing not to participate will not affect your grade, your course experience or your standing in the course in any way.
If you are interested in participating in this research study, please contact the researcher by telephone at (956) 572-0798 or by email at zwilliams80@gmail.com. Not everyone who is interested in participating will necessarily be selected. If you are selected as a participant, the researcher will contact you with a consent form and details by this February 1st, 2022. If you are not selected the researcher will also notify you. Thank you for your consideration.

_____ I Agree to Participate

_____ I Do Not Want to Participate

APPENDIX C

APPENDIX C

Protocol for Interview 1

Hello, I am Zulema Williams, Principal Investigator and Curriculum and Instruction Doctoral Student from the Department of Teaching and Learning at the University of Texas Rio Grande Valley (UTRGV). I appreciate you taking the time to participate in my study. Do you happen to have any questions about the consent form? I will be recording this conversation using a private password protected Zoom room in a separate and individual Zoom room just for you. This means it will be just me and you having a conversation about the questions I ask and no one else can accidentally get into the Zoom room during your interview. I am wearing headphones so that no one outside of me can hear your voice during the interview. Is this ok with you? (If and when a participant does not agree for any reason to proceed, I will then explain that I will not be able to continue with the interview and will thank them for their time. If and when the participant agrees to continue with the interview I will thank them and proceed to record).

This interview is part of a study looking at the improvisation activities in this course and how they might be useful or not in developing identity from being a student to becoming a teacher. I would like to interview you in the middle (after midterm) and at the end of the course. Your feedback will help me be a better teacher and can help lend insight to improve teacher education. Choosing to participate, or choosing not to participate, or choosing to withdraw from the study will not affect your grade, your course experience or your standing in the course in any way. Are you ready to start? I just have 5 questions. Thank you so much for your help with my research.

- 1.) Think back to growing up. How would you describe yourself as a student?
 - a. Prompt: Interesting. Tell me more about . . .
 - b. Prompt: Why do you think that is?
- 2.) What about Science? Did you like science?
 - a. Prompt: Interesting. Tell me more about . . .
 - b. Prompt: Why do you think that it was like that?
- 3.) Tell me about the time you first thought about becoming a teacher.
 - a. What do you think led you to want to become a teacher?
 - b. Prompt: Interesting. Tell me more about.
- 4.) Do you feel you are ready to be a teacher in your own classroom?
 - a. Prompt: In what ways and what ways not?
 - b. Prompt: Tell me more about that.
 - c. Prompt: What has been most helpful helping you get ready?
 - d. What do you think it will take for you to feel ready to be THE teacher?
- 5.) Do you feel ready to teach science?
 - a. Prompt: In what ways and what ways not?

- b. Prompt: Tell me more about that
- c. Prompt: What has been most helpful helping you get ready to teach science?
- d. What do you think it will take for you to be ready to teach science?

APPENDIX D

APPENDIX D

Protocol for Interview 2

Hello, my name is Zulema Williams, Principal Investigator and Curriculum and Instruction Doctoral Student from the Department of Teaching and Learning at the University of Texas Rio Grande Valley (UTRGV). I appreciate you taking the time to participate in my study. Do you happen to have any questions about the consent form? I will be recording this conversation using a private password protected Zoom room in a separate and individual Zoom room just for you. This means it will be just me and you having a conversation about the questions I ask and no one else can accidentally get into the Zoom room during your interview. I am wearing headphones so that no one outside of me can hear your voice during the interview. Is this okay with you? (If and when a participant does not agree for any reason to proceed, I will then explain that I will not be able to continue with the interview and will thank them for their time. If and when the participant agrees to continue with the interview, I will thank them and proceed to record).

As I told you before, this interview is part of a study looking at the improvisation activities in this course and how they might be useful or not in developing identity from being a student to becoming a teacher. Your feedback will help me be a better teacher and help other teacher educators. Remember, choosing to withdraw from the study will not affect your grade, your course experience or you're standing in the course in any way. Are you ready to start? I just have 4 questions. Thank you for your help with my research.

Research questions for the middle of the semester (after midterm):

- 1.) What was it like creating a character of future-self?
Prompt: How did you choose what to write in your letter?
- 2.) If I asked you to write a letter to your past self, like your kid-self growing up. What would be the key take away? What advice would you give yourself as a student?
 - a. Prompt: What about to your past science-student self?
 - b. Prompt: Interesting! Tell me more about . . .
- 3.) I was really struck by your letter to self, tell me more about what you were thinking when you wrote...
Prompt: Interesting! Tell me more about...
- 4.) How are you feeling about the class activities like letter to self and other improvisations so far? What did you learn? How could they be improved?
Prompt: Anything else?

APPENDIX E

APPENDIX F

Protocol for Interview 3

Hello, my name is Zulema Williams, Principal Investigator and Curriculum and Instruction Doctoral Student from the Department of Teaching and Learning at the University of Texas Rio Grande Valley (UTRGV). I appreciate you taking the time to participate in my study. Do you happen to have any questions about the consent form? I will be recording this conversation using a private password protected Zoom room in a separate and individual Zoom room just for you. This means it will be just me and you having a conversation about the questions I ask and no one else can accidentally get into the Zoom room during your interview. I am wearing headphones so that no one outside of me can hear your voice during this interview. Is this okay with you? (If and when a participant does not agree for any reason to proceed, I will then explain that I will not be able to continue with the interview and will thank them for their time. If and when the participant agrees to continue with the interview, I will thank them and proceed to record). As we've gone over before, this interview is part of a study looking at the improvisation activities in this course and how they might be useful or not in developing identity from being a student to becoming a teacher. Please remember that your feedback will help me be a better teacher and can help lend insight to improve teacher education. This is our last interview. But you can still choose to withdraw from the study. It will not affect your grade, your course experience or your standing in the course in any way. Are you ready to start? This interview is a little longer than the others. I have 7 questions for this interview. Thank you so much for your help with my research.

Research questions for the end of the semester (after grades have been submitted):

- 1.) In the improvisations assignment (title), tell me what it was like being a teacher.
 - a. Prompt: Do you think it connects to your letter to your future self? How so? Or why not?
 - b. Prompt: Interesting. Tell me more about . . .
- 2.) Tell me what it was like when you were the student.
 - a. Prompt: Were you like that as a student when you were a kid?
 - b. Prompt: Great! Tell me more about . . .
- 3.) I thought the part in your Fourth Wall performance when you ... as the teacher was really cool, tell me how you came up with that
Prompt: Interesting. Tell me more about . . .
- 4.) Tell me about the performance activity you are most proud of?
Prompt: Why so? Like why do you think this one turned out like this? Awesome: Tell me more about ...
- 5.) How do you feel about the *Fourth Wall* and *Pulls and Pulling* activities? What did you learn? How could they be improved?
- 6.) Do you think you might incorporate arts-based lessons like *Fourth Wall* or *Pulls and*

Pulling . . . when you're a teacher?

Prompt: What about in teaching science? How could you use activities like this for science?

- 7.) In the first interview you said you felt . . . about how prepared you felt to teach science, What about now? Prompt: Great! Tell me more about.

BIOGRAPHICAL SKETCH

Zulema Williams earned a Doctoral Degree in Curriculum and Instruction with a Specialization in Science at the University of Texas Rio Grande Valley in August 2022. She was born in Brownsville, Texas on July 8th, 1970. Zulema is a former actress who studied Theater Arts at La Academia/Instituto de Andrés Soler and concluded her acting career at El Centro de Educación Artística de Televisa, known as el CEA in 1993 in Mexico City. From 1992 to 1998 she acted in various soap operas, sitcoms, plays, and radio dubbings. In 2002 she earned her Bachelors Degree from the University of Texas at Brownsville and Texas Southmost College with a major in Spanish and a minor in Psychology. She then earned her Masters Degree in Curriculum and Instruction with an Emphasis in Science from the University of Texas at Brownsville and Texas Southmost College in 2008. Zulema holds a licensure and certification as a Bilingual Generalist Teacher (EC-4) Teaching Credential. She was a public school teacher serving elementary students for a total of 16 years where she taught first, second, and third grade. In 2008, she was one of four Hispanics in the nation to earn the Oscars of Teaching Award known as the Milken Family Foundation National Educator Award where she currently serves as the liaison for Texas. She also taught ESL students at the Language Institute and later became an Adjunct Professor for the University of Texas at Brownsville and Texas Southmost College. She is currently a Lecturer at the University of Texas Rio Grande Valley. Zulema's email is zulema.williams01@utrgv.edu.