

Using Metaphorical Metacognition and Invitational Education Theory to Enhance Teacher-Candidates' Learning

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Abstract

Invitational Education theory and metaphorical metacognition were synthesized in this longitudinal qualitative study as students explored the impact of experiential learning. During university literacy courses for pre-service teachers, multimodal instruction was used to augment the impact of metaphorical metacognition. Participants discussed their insights from designing book talks and digital stories in discovery circles to introduce their strategic literacy lesson plans. Through provision of an intentionally inviting environment pre-service teachers collaborated while preparing multimodal projects for personalized learning experiences with students from kindergarten to second grade and avatars representing students in this age range. Utilization of metaphorical metacognition to reflect upon class sessions and field experiences produced results confirming the study's efficacy and alignment with the overarching goals, elements, and domains of Invitational Education theory and practice.

Keywords: Invitational Education, Invitational Theory and Practice, Metaphorical Metacognition, Personalized Learning, Digital Stories, Multimodal Instruction.

Introduction

Teachers around the world promote learning with reflective activities for all ages. It is usual for elementary students to complete exit slips and for university students to share their insights on discussion boards during face-to-face or online classes. Utilization of Invitational Education theory and metaphorical metacognition practices take all these reflective experiences to the next level by intentionally inviting students into positive learning experiences and opportunities by exploring the significance of conceptual insights from multiple perspectives. Multimodal projects empower students to capture ideas through cinematography and invite children to experience innovative learning activities.

During this study pre-service teachers began intentionally inviting children to experience these compelling and innovative multimodal learning activities. Then the pre-service teachers became more aware of the significance of those learning experiences through metaphorical metacognition. As the pre-service teachers realized the value of their own reflections, they invited children to reflect on their learning and take their *own* learning to the next level. This study focused on university literacy classes in which pre-service teachers used Aesop's fables as catalysts for creating book talks and digital stories in discovery circles and prepared multimodal projects for personalized instruction with avatars and students in kindergarten to second grade. In this university, administrators and faculty members have worked for many years to provide programs and policies to invite students to enjoy higher levels of learning and innovative academic success. The programs and policies of this major southeastern university are intentionally designed to align with the overarching goals, elements, and domains of Invitational Theory and Practice (Purkey & Novak, 1996; Purkey, Novak, & Fretz, 2020; Shaw & Siegel, 2010; Shaw, Siegel, & Schoenlein, 2013).

Review of the Literature

Invitational schools encourage students to experience innovation and develop leadership skills in student-centered educational environments. Metaphorical metacognition and multimodal projects give students the opportunities to make choices and experience higher levels of learning through engagement and active participation in the learning process. Invitational Education (IE) focuses on the positive aspects of learning and the affective side of the people, places, policies, programs, and processes in education (Purkey & Novak, 2016; Purkey, Novak, & Fretz, 2020; Shaw & Siegel, 2010; Shaw, Siegel, & Schoenlein, 2013). This study's approach aligns well with multimodal projects that combine the power of a story, one of the most meaningful educational tools for generations, and technology, one of our main tools for collaborative communication.

Multimodal Projects

Multimodal literacy combines two or more modes of meaning. Due to advances in technology, multimodal texts have become part of our lives (Mills & Unsworth, 2017). A review of the literature demonstrates the remarkable success and the benefits of multimodal projects. Since language is fundamentally multimodal, we communicate through many modalities each day (Frohlich, et al., 2019). Multimodal instruction equips students to capture the essence and the dynamic qualities of learning experiences across the disciplines (Hill, 2014). The meaning-making process inherent in multimodal projects emerged from the sociocultural constructivism of Vygotsky (1978) and social semiotics theory (Hodge & Kress, 1988; Kress, 2010). The multiple literacies or modes of these projects add the spark of ingenuity to uniquely and effectively convey messages. Researchers use scaffolding (Bruner, 1960; Vygotsky, 1978; Wood, et al., 1976) with multimodal opportunities to promote discovery learning and sequential conceptual development (Magana, et al., 2019).

The research literature provides many examples of the impact of multimodal projects in a wide range of contexts. At the university level, researchers (Brenner, et al., 2004; Wang, 2009) have explored the use of multimodal projects for articulation of identity. Based on the collaboration

of two third-grade teachers and university researchers, Ntelioglou et al. (2014) noted the ways an urban multimodal inquiry project increased multilingual students' literacy investment, literacy engagement, and learning. Smith (2019) considered ways to leverage students' multimodal collaborative composing for their academic benefit in the classroom. Additionally, Hafner (2013) described the ways undergraduate students in a university English class in Hong Kong were able to access positions of expertise as they wrote for authentic purposes and used multimodal projects as digital ensembles to appeal to an audience. Invitational Education promotes this type of expertise in the classroom.

Invitational Education

Purkey and Novak (2016, p. vii) described Invitational Education (IE) as a theory of practice “designed to create and enhance human environments that cordially summon people to realize their potential in all areas of worthwhile human endeavor” (Purkey & Novak, 2016, p. vii). IE “is an imaginative act of hope that explains how human potential can be realized. It identifies and changes the forces that defeat and destroy people” (p. vii). IE recognizes five Domains: People, places, policies, programs, and processes, that comprise “everyone and everything in an organization... (that) will either build or destroy intellectual, social, physical, emotional, and moral potential for stakeholders” (p. vii).

Invitational Theory and Practice

Invitational Theory and Practice (ITP) “is the overarching theory of Invitational Education (IE)” (Shaw, Siegel, & Schoenlein, 2013, p. 30). Invitational Theory and Practice (ITP) “addresses the total culture/environment of an organization to provide a more welcoming, satisfying, and enriching experience for all involved” (p. 34). Invitational Theory and Practice aligns directly with the comments of pre-service teachers during interviews and focus groups in this study. Throughout their multimodal projects and reflections using metaphorical metacognition, the course instructor and technology coach used the principles of ITP. Invitational Education theory and practices intentionally encourage students to actualize their potential in creative and meaningful ways.

Metaphorical Metacognition

For this study, metaphorical metacognition refers to the use of metaphors, or comparisons, to illustrate and clarify the process of metacognition, or thinking about thinking (Kuhn & Dean Jr., 2004). This approach synthesizes Invitational Educational theory and practice, and Conceptual Metaphor Theory, or Cognitive Metaphor Theory (CMT), which emphasizes metaphors to clarify conceptual understanding. Scholars, who emphasized the ways metaphors shape our thinking processes, developed CMT (Zhang, 2021) after the publication of Lakoff and Johnson's landmark book, *Metaphors We Live By* (1980). As Lakoff and Johnson assert, “[The essence] of metaphor is understanding and experiencing one thing in terms of another” (p. 3).

Throughout this study, the researcher invited exploration of a variety of metaphors that were paired with metacognitive activities to encourage preservice teachers to reflect more deeply. Metacognition, which can promote mindful, insightful reflection and problem solving, is a skill that is often neglected (Fogarty & Pete, 2020). When students connect this skill with metaphorical

analysis, a thinking classroom would encourage students of all ages to reflect more deeply, master concepts more effectively, and enhance their learning. An emphasis on metaphors enables students to use these metaphors as power tools to connect abstract concepts with concrete terms and optimize stimulating learning opportunities (Wormeli, 2009). The metacognitive activities invite insightful, reflective self-analysis. Thus, metaphorical metacognition empowers students to gain wisdom as they learn from the past, develop conceptual insights, and look toward future opportunities.

Methodology

This qualitative interview study was designed to determine the impact of creating multimodal projects and using metaphorical metacognition with groups of pre-service teachers in a university emphasizing Invitational Education. Interviews, focus groups, reflections using metaphorical metacognition, class activities, book talks, digital stories were the primary means of data collection, and typological data analysis (Hatch, 2002) was used to codify the overarching themes over these semester-long experiences.

Participants

Pre-service teachers who participated in the project shared their experiences and insights during the interviews and focus groups for this study. The course instructor provided ongoing support and guidance throughout the project, and the technology coach added her expertise. Multimodal projects were completed as part of the university literacy courses, which are part of a degree program to prepare university students to teach students from birth through grade five. As pre-service teachers were taking these courses, they completed field experiences and participated in courses emphasizing instruction in various disciplines from birth to second grade.

For clarity throughout our subsequent discussion, the degree-seeking pre-service teachers will be referred to as teacher-candidates. The teacher educator and technology coach guiding the teacher-candidates applied the principles of Invitational Education throughout the program and emphasized the importance of providing a positive nurturing environment for their subsequent students.

Procedures

During the preparatory stage, teacher-candidates discussed research-based literacy strategies and the essence of quality lesson planning as they explored Aesop's fables and participated in discovery circles. The instructor modeled multimodal procedures for effective lesson planning and guided students as they designed book talks. As they collaborated on multimodal projects, teacher-candidates created storyboards for book talks and digital stories in discovery circles, prepared lesson plans, and captured the results of their collaboration with metaphorical metacognition.

In class sessions, teacher-candidates used insights from fables and various examples of quality literature to explore the components of effective stories. They synthesized the ideas they gleaned with graphic organizers, such as story maps and storyboards, to create book talks and digital stories to introduce strategic lesson plans. They used the insights from this collaboration to

personalize lesson plans for avatars and kindergarten to grade two students during field experiences.

The teacher educator designed the multimodal project so that teacher-candidates could make their own choices, enjoy the process, and experience success. She gave them a rubric for major expectations and left aspects of the project open-ended. This gave the teacher-candidates a sense of freedom and autonomy as they created their own digital stories, book talks, and lesson plans. Then they relaxed and enjoyed the process rather than feeling like they had to just complete a checklist of requirements. Although they were well prepared for the experience, the innovative technology was new to them, and they gained new confidence as they experienced success with the process.

Teacher-candidates designed their multimodal projects in the classroom and online sessions. As they collaborated, they extended their vision of what was possible and experimented as makers of technology rather than just consumers of technology. As teacher-candidates created multimodal projects, they used metaphorical metacognition to reflect on what they learned in order to be prepared to share tips with others and consider procedures for their own future classrooms.

Data Collection

Interview questions and focus group questions served as the basis for data collection. They were designed to encourage teacher-candidates to freely express their perceptions and feelings about the experience of participating in discovery circles, creating multimodal projects, and using metaphorical metacognition. Interviews and focus groups progressed from general “grand tour questions” (Spradley, 2016), such as a description of a typical day to more specific questions about their experiences. Open-ended questions gave teacher-candidates opportunities to share their feelings in their own words. Focus group questions were designed to corroborate statements from interviews to invite opportunities to elaborate on certain issues that were emphasized during interviews.

The semi-structured format provided the opportunity to follow leads from statements made by the participating teacher-candidates (Van Manen, 1990). These follow-up questions elicited rich descriptions and provided a more complete picture of the lived experiences of the teacher-candidates.

Data Analysis

Hatch’s typological model (2002) provided the framework for data analysis from multiple perspectives (Glesne, 2015; Patton, 2014). Initial categorization of the data into typologies was followed by repeated readings, line-by-line analysis, and color-coding of the data using *Microsoft Word*. This analysis was ongoing and utilized the nine steps for data analysis designed by Hatch (2002). According to Hatch, typological analysis should only be used if the categories for analysis are evident. At the beginning of data analysis, it became evident that the data aligned with the assumptions, five elements, and five domains of Invitational Education theory and practice (Purkey & Novak, 2016).

Regularities and common characteristics in the responses of teacher-candidates quickly emerged in a review of the data pattern analysis. As these semantic relationships emerged, they revealed patterns that were suggested in the research literature. These semantic relationships served as links in the data set and provided elaborations on these ideas from the literature. During this codifying process, charts listing relevant data helped identify the integrating concepts that ran through this data.

Color-coded *Post-it flags* were used to label the patterns within the typologies as they were recorded in relation to the specific codes for the participants. While recording integrating concepts that ran through all of the data, stars were used to highlight powerful quotes to facilitate the selection of specific data to support generalizations from these patterns. Throughout these steps the typological model designed by Hatch (2002) continued to provide the framework that illuminated and ensured efficacy during the data analysis process.

Discussion and Findings

The findings of this qualitative study illustrate the ways that the teacher educator and technology coach intentionally invited students to experience success, prepared the process, and guided the teacher-candidates by providing scaffolding throughout the process. These teacher-candidates conducted their project in a university that emphasized the principles of Invitational Education. Teacher educators and colleagues nurtured and cared for them, and this was reflected in their multimodal projects and reflections using metaphorical metacognition.

Invitational Education (IE) emphasizes the ways “everyone has the ability and responsibility to function in a personally and professionally inviting manner” (Purkey & Novak, 2016, p. 23). The intentionally inviting level of functioning created a dependable stance that helped teacher-candidates feel secure; thereby increasing the likelihood that they would consistently accept and act upon the cordial invitation to pursue an inviting educational experience (Purkey & Novak, 2016).

For decades, Drs. Purkey, Novak, and Siegel consistently promoted Invitational Theory and Practice as a way of life (Purkey & Siegel, 2003, 2013). As a result, they made a difference in so many lives. They emphasized the IE Domains, or powerful ‘5 Ps,’ to promote a warm and inviting atmosphere (Purkey & Novak, 2016; Shaw & Siegel, 2010). In Invitational Education theory, the starfish is emphasized to metaphorically illustrate these domains. The starfish metaphor illustrates how the domains of IE theory: People, places, policies, programs, and processes (The 5 Ps), work together to overcome systemic challenges and make a difference in any organization and, by extension, potentially the world. This starfish metaphor clarifies the meaning and impact of the concepts of Invitational Education. The effectiveness of the starfish metaphor, depicting the components of Invitational Education, models the potential for reflections using metaphorical metacognition, or reflections based on a specific metaphor designed to guide higher-order thinking.

Of course, the IE starfish metaphor for overcoming challenges to promote a positive environment aligns well with “The Starfish Story,” originally written by Loren Eiseley (1978). The original story and its many versions have touched the hearts of people all over the world. To

paraphrase: A man sees a little boy throwing starfish back into the water. Then he asks the boy what he is doing. The boy tells the man he is saving starfish, so they will not dry out in the sun. Then the man laughs and tells him there is no way he can save so many starfish. After listening, the boy tosses another back into the sea and politely says, “It made a difference to that one.” This story is often shared to demonstrate the difference one caring person can make. The teacher-candidates in this study followed the principles, which are metaphorically illustrated by the starfish story, by intentionally designing lesson plans to match the interests and meet the needs of individual elementary students during field experiences in literacy classes.

Invitational Education theory and practice emphasizes the importance of each person. Within any group, whenever everyone values each individual, the power and impact of one person is multiplied in amazing ways. (Purkey & Siegel, 2013). As Margaret Mead stated, “a small group of thoughtful, committed citizens can change the world” (Lutkehaus, 2008, p. 261).

The starfish metaphor exemplifies how Invitational Education theory and practice encourages development of a healthy climate that optimizes human potential. IE-driven leaders provide a safe, secure environment whereby people can flourish. Thereafter, intentional invitations provide the opportunities for sustaining success. In each scenario, the leader provides a meaningful environment where the learning process is appealing, and students have opportunities to choose paths to optimal learning. As Fretz (2015) noted, “Invitational Education provides educators with a systematic way of communicating positive messages that develop potential as well as identifying and changing those forces that defeat and destroy potential” (p. 28). “This understanding of the depth and breadth of messages is used to develop environments and ways of life that are anchored in attitudes of respect, care, and civility and that encourage the realization of democratic goals” (Purkey & Novak, 1996, p. 4). When individuals are deeply appreciated and inclusiveness as well as collaboration is promoted, the entire system is influenced, and learning is maximized. Thus, systemic metaphors provide a common symbol for communicating expectations for effective instruction and optimal growth.

As teacher-candidates in literacy classes demonstrated caring attitudes that aligned with Invitational Education, they exhibited ways this positive approach can enhance learning. When they noted the value of these experiences, they shared insights in collaborative discovery circles in the classroom through metaphorical metacognition, and the metaphors used in these activities provided a common language for sharing. Then the teacher-candidates were encouraged to invite their elementary students to reflect upon what they learned from the tutorial sessions during the field experience. Later, they shared the results with fellow teacher-candidates during discovery circles. This ongoing cycle of analysis and sharing reinforced the value of the entire experience through an intentional professional learning community.

The legacy of Drs. Purkey, Siegel, and Novak, as expressed through IE theory, continues to benefit all educators and students. The teacher-candidates in this study benefited from tenets and assumptions of IE theory as emphasized, promoted, and influenced by Dr. Betty Seigel, who promoted and modeled Invitational Education theory throughout her presidency of the university. Subsequently, IE-theory and practices continues to influence the university’s 5Ps, consistently touching the lives of students, faculty, and stakeholders in meaningful ways. Her ongoing legacy

remains the mindset that emphasizes invitations to optimize human potential. Driving the analysis and endeavor to improve upon each of the 5Ps of IE: People, places, policies, programs, and processes, should be a mindset that exhibits intentionality, care, optimism, respect, and trust (I-CORT) that can “systemically transform the whole school” (Purkey & Novak, 2016, p. 22). The results of this study were validated through consistent exhibition of practices aligned with the domains and elements of Invitational Education theory and practice. The primary investigators, serving as the teacher educator and the technology coach, endeavored to ensure the participating teacher-candidates’ comfort, appropriate challenges, and engagement with multimodal projects as they consistently and intentionally invited optimal human potential. Thereafter, the teacher-candidates used reflective metaphorical metacognition to analyze the impact of their instruction.

Results of the Study

This section describes the specific ways in which the utilization of collaborative multimodal projects, participating in metaphorical metacognition practices, and adherence to the Invitational Education theory and practice (Purkey, & Novak, 2016; Shaw & Siegel, 2010; Shaw, Siegel, & Schoenlein, 2013), optimized teacher-candidates’ experiences and opportunities for learning at a major southeastern university. These results reflect patterns identified across the study’s interviews and focus group sessions. The interviews and focus groups of this study consistently demonstrated the ways teacher-candidates designed multimodal projects that reflected their experiences in a welcoming, supportive environment. Invitational Theory and Practice “focuses on increasing the authentically personal and professional verbal and non-verbal messages that seek to bring forth the best of human potential through, trust, respect, optimism, care, and intentionality” (Shaw, Siegel, & Schoenlein, 2013, p. 34). Throughout the interviews of this study there were many links between these elements of Invitational Education and the comments made by students as they discussed their collaborative multimodal projects and participation in reflective metaphorical metacognition.

Implementation of Invitational Education Theory and Practice

Invitational Education theory and practice authentically creates and sustains welcoming learning environments. IE theory advances five basic tenets: intentionality, care, optimism, respect, and trust [I-CORT] to optimize personally and professionally inviting behaviors (Purkey & Novak, 2016; Anderson, 2019). The goal is to promote “increased learning outcomes and personal growth” (Shaw, Siegel, & Schoenlein, 2013, p. 33). During their IAIE e-Conference keynote presentation, “Flourishing with Invitational Education: Ready, Set, S.W.I.N.G.!” Drs. Novak, DiPetta, and Kumar (2021) aligned I-CORT and S.W.I.N.G. mnemonics advocating for “Moving beyond getting ready with the three foundations, and getting set with the I-CORT stance, it is time to get into the S.W.I.N.G. of positive possibilities with Sincerity, Wisdom, Ingenuity, Negotiation, and Glee. Remember, "it don't mean a thing if you don't take that S.W.I.N.G.!" In describing the results of this study, the following sections include quotes from students, who participated in activities featuring metaphorical metacognition using the S.W.I.N.G. mnemonic and the demonstrated alignment with I-CORT.

When analyzing the results of this study, it should be highly evident that the approach of the teacher educator and the technology coach who investigated this project emphasized the alignment with Invitational Education theory and practice. They collaborated carefully and consistently to guide and encourage teacher-candidates as they completed multimodal projects, featuring digital stories. They shared innovations to enhance success as they invited opportunities within and beyond the classroom, which aligned with S.W.I.N.G. and I-CORT.

The results of this study demonstrated the impact of metaphorical metacognition and multimodal projects that combine the power of a story with technology as well as the alignment between experiences of teacher-candidates in discovery circles and IE theory and practice. The elements of Invitational Education intensify the power and significance of each domain (Shaw, Siegel, & Schoenlein, 2013). Before teacher-candidates completed reflections in relation to S.W.I.N.G. and I-CORT, the teacher educator discussed multiple meanings for the word “swing” and highlighted a multimodal presentation with the class, featuring three variations and the metaphorical messages they conveyed.

First, they viewed photos of the life and accomplishments of Ella Fitzgerald as they listened to her music. Then they considered the meaning of S.W.I.N.G. in relation to giving teaching “everything you’ve got.” This aligned with *sincerity* and *wisdom*.

Second, they considered S.W.I.N.G. in relation to a swing on a playground with the realization that the swing lifts one into the air and inspires the imagination and *ingenuity*. Children rush to the swings on a playground, and teacher-candidates considered the joys of creativity in the classroom.

Third, they considered S.W.I.N.G. in the context of baseball. This led to exploration of the *negotiation* and *glee* elements. Teacher-candidates *negotiated* during their discovery circles to ensure every voice was heard and every viewpoint was represented while planning lessons and creating digital stories for their sessions with elementary students and avatars. Then they experienced *glee* when they saw the impact of their multimodal instruction and engaged in reflections using metaphorical metacognition. The metaphorical connection to baseball and the glee element was driven home as teacher-candidates celebrated a victory by their local Atlanta Braves. This was a double celebration as headlines proclaimed the Braves as the World Series Champions and Soler as the World Series Most Valuable Player (MVP). The world was amazed by the power of Soler’s swing when he hit an astronomical home run out of the ballpark. Fans were filled with glee because this was one of three homeruns, which gave him a place in baseball history (Baer, 2021; Fagan, 2021; Gaydos, 2021).

The next sections highlight the results of the study and discusses the impact of alignment between S.W.I.N.G. and I-CORT through implementation of Invitational Education theory and practice. The following quotes from teacher-candidates participating in the study demonstrate the powerful potential when intentionally seeking to align one’s I-CORT mindset with the sincerity, wisdom, ingenuity, negotiation, and glee elements of S.W.I.N.G.

Intentionality and Sincerity

“Intentionality is the keyword of Invitational Theory” (Haigh, 2011, p. 300). Invitational environments are both created and sustained through intentionality. As a process for defining school climate, Invitational Education encourages a Democratic Ethos to feature “collaborative and cooperative procedures and continuous networking stakeholders” (Purkey & Novak, 2016, p. 22). Intentionality in the design of these processes emphasizes the value and boundless potential of individuals (Novak, Rocca, & DiBiase, 2006).

Systemic processes intentionally reflect care, optimism, respect, and trust (I-CORT) to actualize the fullest potential of a collaborative atmosphere. These intentional processes encourage ongoing development of cooperative procedures with reciprocal benefits. The teacher educator worked intentionally with the technology coach to provide relevant and meaningful experiences within the teacher-candidates’ comfort zone, thereby promoting success without undue stress (Vygotsky, 1978). She used multimodal projects, featuring book talks and digital stories in discovery circles, strategic innovative lesson planning, and reflection through metaphorical metacognition to make reading an adventure for her students. Teacher-candidates reflected on the ways they demonstrated genuineness, shared heartfelt comments, and demonstrated authenticity when they shared their lesson plans with elementary students and avatars. A teacher-candidate stated:

I demonstrated sincerity by being kind, genuine, and authentic in all of my assignments. In my tutoring session and my discovery circle I always put my best effort in. I wanted my group members and reading buddy to be able to see that I always tried my best and was willing to listen and talk with them.

The multimodal projects in these literacy courses were intentionally designed to provide students with tools to increase enthusiasm for learning. A student noted:

Having S.W.I.N.G. means teaching with all your “might” to give students those engaging and authentic learning experiences.... From the pre-assessments, I was able to learn what my student’s strengths are and what I could do to enhance those strengths to help her move to the next level. My student really enjoyed the digital story, which made her want to strive to become a better writer and to create something like that.

Care and Wisdom

Invitational Education theory and practice focuses on people and the importance of each individual for a successful educational experience (Purkey & Novak, 2016). Teacher-candidates in this study chose specific fables as the inspiration for their book talks and digital stories at the beginning of the project. The education program is designed to help teacher-candidates maximize their cultural awareness, connect with various cultures, and develop empathy in meaningful ways. At the end of the project, teacher-candidates said they were more aware of the importance of cultural connections and books that promote cultural insights. They used the wisdom of fables that have withstood the test of time to emphasize wisdom, practical applications, and cultural connections in their own teaching. They used reflective metaphorical metacognition with these stories to demonstrate their ability to learn from the past and continue a reflective stance for greater success in the future, demonstrating care for others. A teacher-candidate commented: “In the

tutorial process I made sure to give the student caring comments every time we worked together.” Another teacher-candidate described the ways she created a caring and comfortable learning environment for her reading buddy:

I provided a comfortable learning environment with a lot of support. I demonstrated wisdom when I was scaffolding my student. I would guide her towards the right answer and come up with questions that made her think more deeply about a topic. I also learned new things after performing each of my lessons. I learned ways I can improve my lessons, and I made adjustments throughout the semester.

Class sessions emphasized the importance of each individual, and teacher-candidates prepared lessons with differentiated instruction to personalize the learning experience. A student commented, “I am in teaching to show children love and build relationships, along with giving them the power of education.” A student noted: “I have shown wisdom through reflecting on past lessons in order to make the more recent ones more effective and successful.” Another teacher-candidate described what she has learned about using care and wisdom to personalize instruction through multimodal projects in discovery circles and her field experience:

I demonstrated wisdom by making changes to my assignments and teaching practices as needed. For example, there were many times in my discovery group where we edited our script, book talk, and lesson to make it the best it could be. I also did this with my lessons. I would make changes based on my reading buddy's needs to provide scaffolding and extensions.

Optimism and Ingenuity

The optimism of everyone helps to make a school inviting as it encourages everyone involved. Programs that embrace Invitational Education theory and practice can be “formal or informal, curricular, or extra-curricular. It is important for educators to ensure that all of the school’s programs work for the benefit of everyone and that they encourage active engagement with significant content” (Purkey & Novak, 2016, p. 21).

Optimism and enthusiasm were highly evident during this project. The teacher educator, technology coach, and teacher-candidates in the literacy classes consistently conveyed an optimistic perspective. When teacher-candidates discussed plans and chose roles for the multimodal project in their collaboration, they considered the assets of each other and promoted the development of those assets using creativity and attention to details.

As a teacher educator taught these literacy courses, she provided scaffolding to promote confidence and optimism when they began the multimodal projects. After analyzing quality literature, creating storyboards with ideas for book talks, and discussing possibilities collaboratively in discovery circles, teacher-candidates gained more confidence in teaching. A teacher-candidate described her collaborative experiences:

I think during the fable lesson plan is when I demonstrated the most ingenuity. When we went to the TRAC Center and Innovation Lab, I had the idea to create our animal characters out of die cuts and take photos of the cutouts in my backyard, which is

forested. . . . I was very excited to show my students the fable we created. I had never used Adobe Spark before, and it was really satisfying to see our polished final product with nice transitions, images, and audio.

Teacher-candidates used metaphorical metacognition to describe the ways they demonstrated innovation, insight, and creativity. As the result of preparing to teach more creatively and based on their experiences, these comments reflected the views of many teacher-candidates:

- “I feel like I have really developed my creativity when it comes to lesson planning.”
- “I used creativity while coming up with lesson plans that were engaging as well as informative.”
- “When teaching lessons, I can think of ways to differentiate on the spot, if needed.”
- “I think that the further that we got into the semester the more creative and innovative I became with lesson planning or working with my discovery group on class activities.”

Respect and Negotiation

Invitational Education emphasizes the importance of documenting policies and emphasizing consistency for the benefit of everyone in the program. Purkey and Novak (2016) described policies as “critical semantic webs that influence the deep-seated structure of any school” (p. 21). Teacher-candidates in the literacy classes were collaborating in a university in which those “critical semantic webs” reflected the structure of a respectful environment in which their ideas were honored and appreciated by their colleagues and teacher educators. Policies and procedures were intentionally designed to promote respect, and meaningful collaboration was valued for promotion and tenure. Teacher-candidates collaborated effectively in discovery circles and with their reading buddies. A student commented: “My CT and I worked closely. When I ran into a problem during a lesson, she and I brainstormed a way to fix it.”

Teacher-candidates also worked in respectful ways with their friends in discovery circles. They chose roles at the beginning of the semester to distribute components of the project. A teacher-candidate described her collaborative experiences:

When working with my group, we had good communication. We discussed the different roles that we needed to complete and split the work evenly among ourselves. We supported one another when we needed it, and we weren't afraid to ask each other questions. If someone in the group needed extra support one week, we would all help and make sure we got everything done. I enjoyed our collaboration and was able to learn a lot from my group.

Teacher-candidates used metaphorical metacognition to discuss the ways they showed respect for each other and found ways to resolve any concerns and collaborate effectively in their discovery circles as they prepared their projects. A teacher-candidate stated: “I negotiated with my group as we wrote our digital story. We all brought a piece to the project that made it whole.” Another teacher-candidate reflected: “I demonstrated negotiation by being flexible when

working with others. My discovery group was very good at taking all opinions into account and discussing concerns.”

Another teacher-candidate shared collaborative experiences:

In our discovery circle, we always found ways to resolve any concerns within our group. We each brought different insights into our group, and it worked out great. We collaborated in class and through a group message. Any time we had any concerns we could always reach out to one another and work it out together.

Trust and Glee

Invitational Education highlights the importance of providing a pleasant, comfortable, and aesthetic learning environment which nurtures growth and promotes trust (Purkey & Novak, 2016). When leaders establish trustworthy patterns of interaction, schools augment the benefits of this pleasant environment. Reliability, genuineness, truthfulness, competence, and knowledge are keys for establishing this type of environment (Arceneaux, 1994; Purkey & Novak, 2016). The teacher educator and technology coach worked from the beginning to establish trust and a pleasant rapport with teacher-candidates. The university itself is a safe, pleasant, and caring environment in which teacher-candidates feel comfortable. The education program is an extension of that atmosphere of trust, extending the basic needs for a safe and caring environment to the next level (Maslow, 1943).

The literacy courses were intentionally planned to build trust and help teacher-candidates feel that they were in a comfort zone. Class sessions were designed to provide encouragement, and teacher-candidates were able to thrive in a nurturing environment. Teacher-candidates reflected on their joy and feelings of satisfaction, which resulted from seeing plans and dreams become reality. A teacher-candidate commented: “The connections I made this semester have been so rewarding, and it makes me so excited for the future.” Another teacher-candidate commented:

This entire tutoring process was a joyful experience. I loved when my reading buddy would ask me, “Are we working together today?” It made me feel special, and it made me feel like he truly enjoyed the time we got to spend together.

A teacher-candidate reflected:

I felt satisfaction when I saw the end result of my work with my reading buddy. He grew tremendously over the semester. I compared his work from the beginning to the end of the semester, and you could see his confidence grow in writing as we worked together.

Many teacher-candidates indicated that seeing their digital stories become reality was a highlight of the experience. They also enjoyed seeing elementary students’ eyes light up when they shared digital stories with them during their lessons. Teacher-candidates built trusting relationships in their discovery circles as they created multimodal projects with book talks and digital stories. They consistently commented on the encouragement they experienced through these close relationships. Teacher-candidates emphasized the ways they were able to depend on each other as

they divided up sections of assignments and discussed their multimodal projects. Their collaboration took their learning to the next level, particularly as they saw how much could be accomplished collaboratively. A teacher-candidate noted:

It brought me great joy to see my student interested and light up when we did some of the lessons because I wanted to make sure the lessons matched his interests or try to connect them to what he knows. I was very happy near the end of my field experience because I was able to see my student grow, be more confident in his writing skills, and try his best.

Overarching Comments

Teacher-candidates consistently said they would use discovery circles and multimodal projects with their own classes. They were quite pleased with their accomplishments. Teacher-candidates noted that this project made them want to be more creative in their own classrooms. As they summarized the experience, a teacher-candidate shared the ways she would demonstrate that S.W.I.N.G. in her future classroom:

- **Sincerity** - I will make sure my students feel loved and valued in my classroom.
- **Wisdom** - I will make sure to tap into my students' prior knowledge to help them in the learning process.
- **Ingenuity** - I will do many hands-on projects to help students show creativity and have fun learning experiences.
- **Negotiation** - I will work with my students and make sure to hear them out when expressing concerns/questions.
- **Glee** - I will make sure my classroom is a happy and fun-loving environment where students feel welcomed and free of judgement.

When teacher-candidates described the benefits of their collaborative experiences and multimodal projects, they mentioned the ways they would use these projects to inspire their own students and spark their imaginations in creative ways. A teacher-candidate commented:

I feel joy and satisfaction by completing the course this semester and the relationships I built with the people in this class. I am also happy because I know that I really love and have a passion for teaching. I want to share the joy I have for teaching with all of the students I teach.

Teacher-candidates were enthusiastic about the knowledge they gained from their class sessions and multimodal projects. These projects made teacher-candidates more aware of the kaleidoscope of possibilities for creating adventures and inviting their own students to explore literacy with innovations that promote exuberance for learning. A teacher-candidate reflected:

It was so joyful and rewarding to see my reading buddy excited to learn. Throughout the semester, she got more and more excited to read and write with me. I felt encouraged when she began to understand new topics or concepts. I was able to see her progress, and my collaborating teacher also noticed all the progress she was making.

When she would get a question right or write a sentence correctly, she would always smile so big, and this brought me so much joy. I could tell that she started to believe in herself more and began to enjoy learning. It was rewarding to see this.

Many teacher-candidates noted that these class experiences made them more excited about teaching and confirmed that they were in the right profession. These comments were typical of the comments made by many teacher-candidates:

- “Working with my students this semester reminded me why I wanted to pursue this career, and I couldn't be more excited.”
- “I always feel so fulfilled when I leave the classroom. I find joy in watching students learn!”
- “I am very satisfied with the experience that I have gained, and I am excited that I am one step closer to becoming a teacher, which has always been my plan and dream.”

Another teacher-candidate, who made a caring comment in each tutorial session, also emphasized the value of reflection with his reading buddy. He commented:

I made sure to reflect with my student on every assignment we did so my student would be able to both remember what we specifically did in each lesson as well as achieve a higher understanding of the content we went over.

When he concluded the tutorial process, he experienced the rewards of that reflective process as his reading buddy shared the benefits and the joys he experienced from their collaboration. The teacher-candidate reflected:

I felt the most glee in the semester as my final tutorial session came to an end, and my reading buddy told me he wanted me to be his teacher in the future. He said one reason was that I was a fun teacher, and he also said he wanted me to be his teacher because I taught him a lot and spent time with him.

Conclusion

The teacher-candidates participating in this study experienced the value of Invitational Education theory and reflective metaphorical metacognition practices as intentionally presented within the university classroom. The teacher-candidates were able to then generalize these approaches with a kindergarten-grade two reading buddy. Notably, reflections about course experiences confirmed plans to become a teacher. Thus, exhibition of IE theory, utilization of multimodal instruction, and opportunities for reflective metaphorical metacognition, optimized the teacher-candidates' learning and teaching experiences. For these teacher-candidates, this was much more than an assignment. It provided the teacher-candidates with opportunities to optimize their potential while reflecting upon the positive role they will play in their young students' lives.

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