



THE KING'S CARPET: DRAMA PLAY IN TEACHER EDUCATION

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Trying to develop new perspectives of teaching is never easy, but trying to cultivate ownership and initiative among teacher education students is a still greater aspiration that is infrequently realized. This article addresses each of these highly valued goals for teacher educators as a case study reveals the impact of involving teacher candidates in interdisciplinary focused, constructivist and reflective models and planning for teaching, and then student teaching, which reaffirms this approach. Most significant is the phenomenon of several teacher candidates continuing their development and study of innovative drama play projects with their classes after the semester finishes. The resulting transformations in professional identity development, self-efficacy and student-teacher relationships confirm the value of the teacher education model which has developed over a decade of practice (Lyublinskaya & Kerekes, 2009).

Key Words: teacher education, collaboration, co-teaching, drama, role playing, active learning, critical thinking and research, inquiry based learning

The goal of the pedagogue is to help the students becomes more thirsty to learn which can last a lifetime.

~ Lelkes Eva

(In Baji-Gál, Elek, & Nagyné, 2001, p. 4 trans.)

INTRODUCTION

A common problem with educators is that, despite our efforts to introduce new methods and strategies, invariably “We teach how we were taught.” Not only do we experience this dynamic in k-12 education, but also within higher education. When distanced from faculty development or pre-service training, educators often revert to prior *learning* experiences as models for their current teaching. This article provides a detailed account of how four teacher candidates experienced an innovative teaching method, appropriated and internalized it as their own.

Indeed in a university-wide presentation (May, 2009), these graduate students shared the vision and commitment which emerged from their shared experience,

In the future, we need to engage students in creativity to provide the most enjoyable activities for our future students. We will encourage them to have fun while learning complex areas of study.

Specifically, this article describes and discusses a case study of how four teacher candidates initiated an extra drama play project to help elementary students experience, internalize, and learn math concepts in an interdisciplinary context. It reveals significant outcomes and implications of creative inquiry based learning for teacher professional development, designing and facilitating interdisciplinary learning with young students, and strategies for integrating critical thinking and active learning in collaborative settings.

METHOD

This research was conducted as a case study. Case study methods are widely recognized as a valuable means to provide insight into new strategies, methods and approaches and as a foundation for exploring the development of models, and frameworks (Merriam, 2007). Although not broadly generalizable, a case study does afford a model for educators with similar settings and participants to learn and inform their work. Additionally, case studies provide examples for educators to examine before they attempt to use new methods; teacher educators interested in introducing drama plays to their teacher candidates will therefore benefit from this case format, findings, analysis and discussion.

Case studies are often used in emergent fields of study, such as in this situation. Although teacher education is a widely studied field, the use of drama plays for interdisciplinary learning in teacher education is less familiar and documented. Therefore, the outcomes, patterns and recommended future research of this case study research can serve as foundations for future study (Yin, 2002).

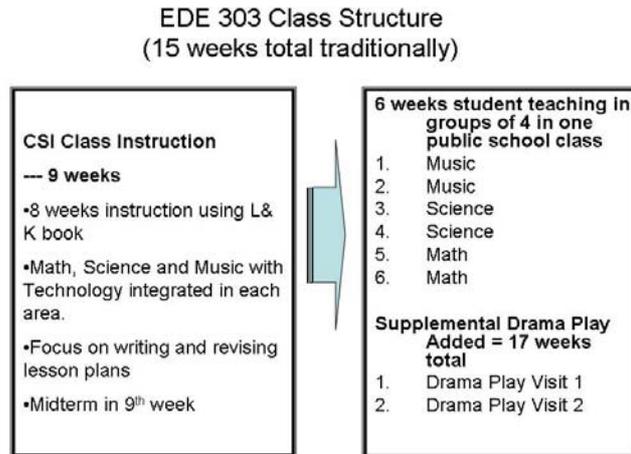
The data gathered to examine this case focus on the impact of drama play as an interdisciplinary instructional strategy. Both teacher candidate reflections and the professor's observations were documented and analyzed for this article. Analysis was conducted through constant comparison of emergent themes in order to develop grounded theory (Creswell, 2003; Glaser & Strauss, 1967). The narrative accounts were repeatedly read and analyzed for common themes; these themes were identified and the texts coded. This process was continued until saturation (when no more themes were evident). In addition, in our analysis we developed several data displays of observations, frequency counts, themes, observations and patterns in table format, Venn diagrams, star charts and webs (Creswell, 2003). At this point, the authors examined the results and the case to determine evidence of a grounded model or theory having emerged.

Background

The original context for this study is the teacher education class, EDE 303 at College of State Island in New York. This course used Lyublinskaya and Kerekes' *Integrating Mathematics, Science and Technology in the Elementary Classroom* (2nd ed.) (2009) as their course textbook. In this course, the graduate students developed theoretical background of active, collaborative, constructivist, drama play and inquiry-based learning. They also had extensive practice and feedback on planning and writing lesson plans. Once the students had successfully completed their midterm exam, they were assigned student teaching in public schools. Consistent with the course focus, their student teaching assignments were in the integrated content areas of math, science, music and technology. Moreover a distinctive characteristic of this approach was that they worked in the schools in groups of four. That is, each classroom had four teacher candidates assigned to it.

After the semester was over, one group of these teacher candidates decided to develop a drama play lesson plan together. Notably, this was entirely their initiative and extra effort; the teacher candidates did not earn credit for these activities, as they were not part of the course. Their professor supported the teacher candidates' efforts by making arrangements for them to continue with their work in their student teaching classrooms. Figure 1 illustrates the format of the course, and how these four teacher candidates decided to add their extra work to it.

Figure 1 EDE 303 Class Structure



Theoretical Background

The real lifetime achievement is not what I teach them, but what is their relationship to the teaching process, how is their self-efficacy, self-worth and high expectations for themselves.

~ Michael Rutter

(In Baji-Gál, Elek, & Nagyné, 2001, p. 4 trans.)

The theoretical framework of this study is modelled in the above quote by Rutter. From our perspective Rutter's quote not only applies to the young children in the classroom, but also the teacher candidates. Grounding literature for such an approach is drawn from three major sectors: inquiry based learning, drama play in math education, and reflective practice of teachers. These three areas provide a sound theoretical foundation for our study, discussion and recommendations. This section will provide a brief overview of the framing literature relevant to the study.

Inquiry Based Learning

The teaching method and framework of inquiry based learning enables students to explore real-life problems, explore their complexities and probe questions

which arise in the problem. This learning experience also includes posing and testing solutions in order to craft final solutions (Freudenthal, 1973). In group settings, inquiry based learning incorporates collaborative learning, as well as dialogue and consensus building.

The real power of inquiry-based learning is the cultivation of critical thinking skills, problem solving skills and the constructivist learning of content. When students discover knowledge, they take ownership of the learning and internalize the lessons, often for life (Fosnot, & Dolk, 2001). Content learning is accomplished through these experiences and includes several orders of magnitude of difference in the ability to and length of recall.

Drama Play in Teaching

The literature on drama play in teaching reveals that using drama plays to engage students in exploring content related topics, and in this case real-life problem solving, is a powerful means of learning (Baji-Gál, Elek, & Nagyné, 2001; Erdoğan, & Baran, 2009). According to Baji-Gál, Elek, and Nagyné (2001), although children are born with the ability to think and solve problems, it is dependent on the teacher to offer the students the opportunities to experience situations where they can practice and learn problem solving firsthand. Moreover, while using drama play as the means of experiencing problem solving, students gain deeper content knowledge through the creative processes they use to develop and enact the stories.

The literature on drama play also highlights the necessity for sufficient time to allow students to be fully involved in the experience. Teachers need to refrain from solely highlighting what *cannot* be done. Instead positive guidelines should be emphasized. For instance, phrases such as “You can play this,” “You can explore that,” “You might consider new options” can facilitate discovery while guiding students to focus on staying in context. In such environments, students become engaged and invested in creatively constructing solutions, and illustrations, diagrams, or explanations of the situations (Baji-Gál, Elek, & Nagyné, 2001; Kaposi, 2005). Students engaged in drama plays in this manner become active in collaboration, dialogue and solution development because they are actively constructing their projects. The plays take on the life of the students and classroom. Moreover, the students take ownership of the projects. This dynamic sets the stage for the resulting learning to likewise be their own. Much like ancient fables, the final drama play solution may be small, or short, but for the students (and teachers) it has profound meaning and depth.

Reflective Practice

Regarding teacher education, our primary model has drawn from the literature of reflective practice. Schon (1987) has long discussed the need for practitioner self-efficacy and continuing professional learning. Others have revealed how learning experiences centered around critical thinking, problem posing and technology learning can give rise to teacher transformations (King, 2005, 2009; Cranton & King, 2003). The literature also reveals that teachers who experience innovative models of technology and constructivist classrooms have also been seen to be better prepared to develop constructivist classrooms (Jonassen, Howland, Moore, & Marra, 2003).

These findings and theories confirm the need for integrating theory and practice in teaching training (Argyris, & Schön, 1974). Furthermore, they are critical in this case study's approach to assisting teacher candidates not only to understand teaching methods, but also develop greater confidence, responsibility, and self-efficacy and grow into their professional identities. In models of reflective practice and theory in practice, teachers in training would develop perspectives of themselves as lifelong learners. This perspective not only impacts their professional growth, but also becomes a transparent model for their students and colleagues (Daloz, 1999). Another important part of this approach is the emphasis on different student-teacher relationship, dialogue and co-learning. This model does not foster authoritarian power, but cultivates facilitating learning to help other people grow.

The Case Experience: The King's Carpet Drama Play

Prior to the teacher candidates returning to their student teaching classroom, they met and planned their interdisciplinary dramatic play activity in depth. Their planning work was done on weekends, in-person, by phone, and with web-based communication. In this case the teacher candidates conducted needed research and developed the overall plan. A significant variation of their project could be that the younger students could be responsible for researching the standardization of measurement during the French Revolution instead of the teacher candidates.

Following is the drama play activity's overall plan for dividing responsibilities and roles in the performance, introducing and implementing the activity with the students, and facilitating student's inquiry-based learning. (See Figure 2 for the King's Carpet Drama Play Model.) The results were more than the teacher candidates and professor had expected.

Figure 2. King's Carpet Drama Play Model.

The King's Carpet Drama Play Four Groups of Cast Members

- The group of teacher candidates wrote the lesson plan and drama play to be introduced, practiced, performed and debriefed in two class visits.
- The play overview is provided in Appendix I.
- They developed it such that there were four groups which the entire student class would divide up and then study, understand and portray in the final play:
- These four groups were:
 - **The Kingdom:** The king, the queen, their children, master of ceremony, and king's marshall
 - **The Musicians:** Singers (some classes have done drums and trumpets also)
 - **The Weaver Shop:** Head of the shop and workers
 - **The Court:** Judge, wise men, and jail keeper

Plan of Action with the Students

- **1st Class Visit: Invitation and Preparation**
 - The teacher candidates returned to their classroom and invited the students to participate in the drama play.
 - Teacher candidates discussed the drama play with the students: what it was and entailed.
 - The students confirmed they wanted to go forward with the project.
 - The teacher candidates assisted the students in picking their roles within their class group.
 - Together they studied the storyline, what was to be said, and what action was to occur.
 - **2nd Class Visit: Five Phases for Performance and Dialogue**
 - **Phase 1, Final Rehearsal:** The teacher candidates assisted the students with reviewing their roles and getting dressed for the play.
 - **Phase 2, Performance:** The actual performed and videotaping of the play
 - **Phase 3, Debriefing:** Each teacher candidate debriefed with their individual group to discuss what had happened, what they had learned from the activity and to try to stretch the students' understanding of the content through questions.
 - **Phase 4, Math Congress:** All four groups of the class came together for a "Math Congress" and shared their group's learning about the interdisciplinary topics from the drama play.
 - Student Conclusion: We need the measurement unit in our math class.
 - **Phase 5, Final Celebration:**
 - (1) Students contributed by drawing a collaborative large mural of what they each had learned from the entire activity.
 - (2) Students were invited to explain to the entire class what their drawing meant.
 - (3) Students extensively shared, dialogued and appreciated the different learning and perspectives of their classmates.
 - (4) Teacher candidates listened with appreciation and validated the student learning and perspectives.
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It is important to note that the interdisciplinary, constructivist, problem-solving approach of this drama play learning activity is essential. These characteristics are woven throughout the learning experience because the teachers are prepared to help students articulate their learning process, questions and possible solutions (Lyublinskaya & Kerekes, 2009). The strategy of interaction is discovery, facilitation and dialogue, not lecture and content “delivery” (Freire, 1970; Jonassen et al, 2003).

FINDINGS

In this section, we present the findings of this case study as discussion of the evidence of the four identified themes: student validation and learning, teacher professional identity and self-efficacy development, and teacher-student co-learning relationships. In addition, the overarching theme of the development of a dynamic learning community is also presented and connected to those mentioned.

Student Validation and Learning

Throughout this research, the teacher candidate accounts and the professor's observations provide numerous, repeated references to the impact of the drama play project upon student learning in several specific ways:

- deeper understanding of each of the content areas,
- greater student engagement in study of the content,
- greater student responsibility,
- extensive student creativity drawn out by educators, and then unleashed,
- power of real life examples helped internalize learning
- students created their own understandings of the need for studying advanced math topics
- the efficacy of peer learning when the students explained their learning to one another
- the breadth of learning individual students culled from the learning activity

Two examples illustrate how the teacher candidates describe aspects of this student learning in their reflections and presentation as well:

[Ownership, Real-Life Examples] Regarding student active participation and learning, ownership, throughout the lesson, students asked questions and became interested immediately when discovering what they were being taught.

[Validation, Self-confidence] Occasionally, students such as this young boy felt the need to have someone appreciate his work. Consequently, he gained confidence in his ability to understand the standard unit of the metric system.

Teacher Professional Identity and Self-Efficacy Development

The significant effect of this learning activity upon the teacher candidates was concomitant with their students' learning. The teacher candidates' reflections and behavior reveal disproportionately rapid advancement in self-efficacy as the result of only two additional student teaching class sessions. The professor identified several possible reasons for this phenomenon: 1) the extensive team-initiated collaboration during the pre-planning stage, 2) their careful consideration of the students' needs, interdisciplinary learning content, and a creative, extended drama play, 3) the pedagogical strategies and implementation plan wherein the teachers facilitated and stretched students' thinking, and 4) the success of the experience.

The following examples reveal these teacher candidate's growing identification as reflective practitioners (Schon, 1987) and professional educators.

In regards to professional growth, I've gained a better understanding of how important it is to provide rationale for what it is that I am teaching the students. This is because I've witnessed how engaged the students were during this math lesson after I explained to them that they will discover how the standard unit of measurement came to be. The ruler is something that they accepted as a part of their everyday life when it was originally taught to them, but the excitement came when they were told that they will discover *why* it has been a fixture in their lives. With motivation being essential to the success of a lesson, this was a great moment that I will always remember as I am devising lesson plans in the future.

The success of this lesson further proves the point that it is now time for teachers to move away from the traditional methods of pedagogy. Teachers must now look to sometimes create inquiry-based activities where children participate in and are provided opportunity to construct their own knowledge, thus building concrete memories that will stay with them forever. This is the flag that is carried by all of my EDE 303 professors, and it is a revolutionary

idea that will inevitably reform the overused methods of teaching so as to best fulfil the educational potential of the children of our public schools.

It takes a lot of cooperation from the students to pull off a lesson like this and it takes a lot of patience from the teacher to keep a whole class participating in something so wonderful. After this lesson, I have come to realize that it takes teamwork to make a play successful and it is also very important to make every child feel that the part they play is very significant. For example, there was a young boy in my group that wanted a very fun part and I told him he could be a guard. At first, he did not find this very important because the guards do not have any lines, but when I explained to him that the guard is the person that keeps the king and queen safe, he was happy to play that part. He practiced walking like a guard a couple of times, which I personally enjoyed because it was very adorable. He got into character before I could even finish my sentence. With some students, I realize that the teacher must have patience and be very positive, because it is easy to put down a child and not care, but it takes a true leader to turn a bad situation around and make it positive.

Furthermore their professional identity extended to professional leadership among their peers. As the professor observed, "These teacher candidates took on an academic leadership role as others learning from their experience during campus-wide and graduate course-based presentations."

Teacher-Student Co-Learning Relationships

Finally, a new paradigm emerged among the teachers and students through the drama play experience. In their prior sessions, they had taken more traditional teacher-student roles. However, through the extensive collaboration, involvement and creativity encouraged by the teacher candidates and shared by the students, a co-learning relationship emerged. The collaborative dialogue of this relationship starkly contrasts with traditional educational practice, in which these teacher candidates had spent most of their academic life.

The data reveal several examples of this co-learning relationship

- When students ask how to measure, the teachers ask them how they might figure it out.
- When students suggest options, the teachers encourage students to explore them further.
- When results are gained, the teachers ask questions to check comprehension and prompt assessment and analysis.

- When the students begin to develop more ideas, the teachers step out of the way.
- When the students share their learning, understanding and ideas, the teachers validate and praise their work and efforts.

One teacher candidate described the co-learning relationship particularly well,

As teacher candidates, we allowed our students to discover the reasoning behind the standard measurement without having to intrude every moment. They were confident in our guidance as we watched them learn on their own. This allowed them to feel free and expressive when creating the kings carpet.

The professor also describes the change evidenced in the teacher candidates' practice,

In the individual groups you could hear the teacher candidates stretch the students' thinking rather than telling them what they learned. They kept asking questions to help the students dig deeper for connections and solutions.

Overarching Result of a Dynamic Learning Community

While recognizing these three major trends or themes in the case data, our analysis also revealed a broader theme of a dynamic learning community. This model emerged because it simultaneously and more completely captured the student learning, teacher learning and development, and the co-learning relationships.

Characteristics of this model are evidence by the following broader descriptors:

- initiative and ownership overflow
- spontaneity
- creativity
- constructing personal strategies
- validation of one another
- model positive reinforcement
- respect of different opinions and solutions

- energetic collaborative problem solving
- self-confidence, professional confidence and academic confidence
- voice
- mutual support
- internalized learning
- generalizing learning to new contexts

From their perspective, the teacher candidates collectively described the power of the learning community experience and constructivist learning,

Constructing Knowledge

The students were very animated at the end of the lesson when they had to create the king's carpet together as a team. The knowledge that they gained from the play allowed them to have a better understanding of why the standard unit of the metric system was created during the French Revolution.

In summary, this teaching strategy provided not only a new model and but also a new learning history which was internalized in all of their lives: interdisciplinary drama play, collaborative with peers, co-learning of teachers and students, initiating academic leadership and discovering firsthand the joys of teaching (graduate students) and learning (younger students). In some philosophies, one might say, the teachers and students alike had experienced the synergy and power of *teachable moments*.

DISCUSSION

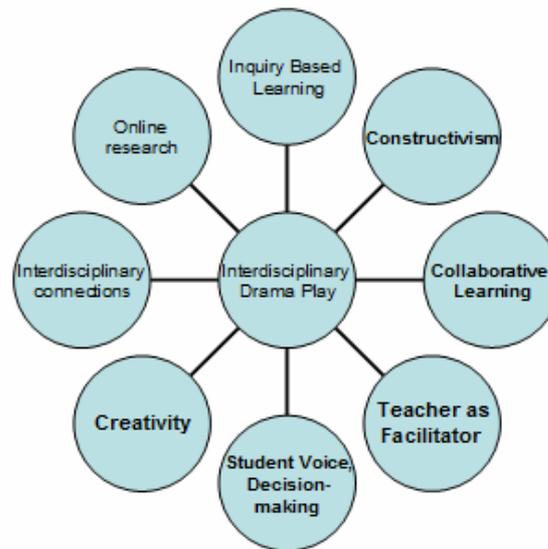
The findings of this case study are two pronged and afford greater understanding of the impact of drama play as an instructional method in Mathematics education as well as teacher professional learning. First they reveal several significant pedagogical characteristics of this interdisciplinary, constructivist, problem-solving approach of drama play. Second, a grounded model of the themes emerges.

Pedagogical Principles

Figure 3 illustrates the contributory relationship of specific teaching strategies and perspectives which were evident in this case. Based on our findings and

analysis, these are termed pedagogical principles to communicate their essential roles in this learning experience.

Figure 3



Pedagogical Principles Integrated in Interdisciplinary Drama Play

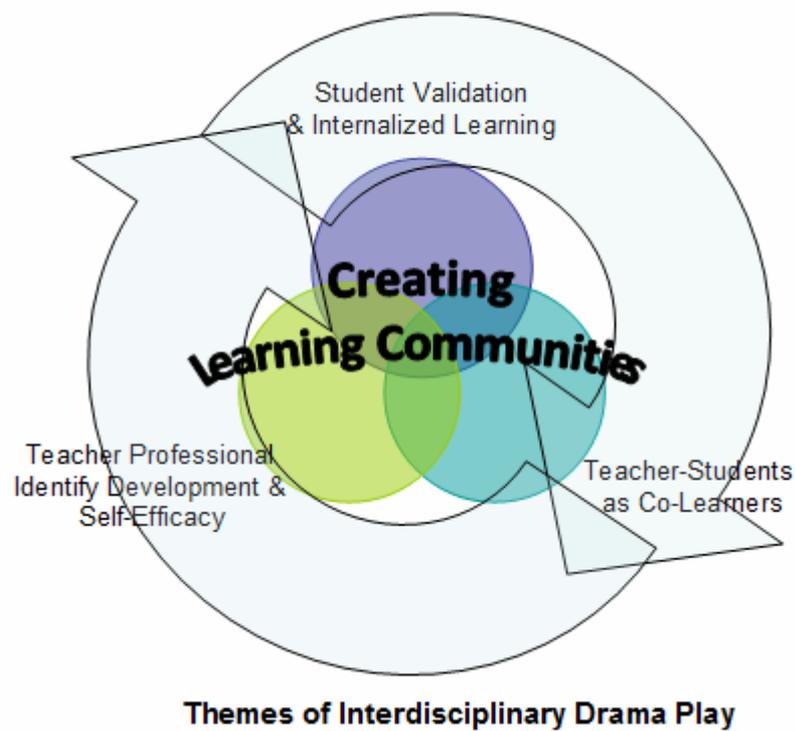
This model is far different from the traditionally passive childhood classrooms, which leads us to the enduring dilemma stated in the first question posed in this article, How do we break the “We teach how we were taught” perpetual cycle. This case affords a strategy which engaged the teachers in experiencing the pedagogical principles described above and then oversaw their conceptualizing, planning and development of similar classroom experiences. Moreover, unleashing this model with these teacher candidates afforded great opportunities to catalyze their professional growth and leadership.

Grounded Model

Providing a conceptual framework, this case research also offers a resultant grounded model incorporating the above principles, and major themes of the

findings. The diagram displayed in Figure 4 reveals the interrelationship of the emergent themes: student validation and learning, teacher professional identity and self-efficacy development, and teacher-student co-learning relationships. In addition, it depicts the very important overarching goal and creation of a dynamic learning community.

Figure 4 Themes



This model affords not only a visual representation of the impact of the drama play method, but also a vision and goal to guide decision-making, measure progress, and determine student and teacher learning success. The arrows represent the all-encompassing and dynamic role of co-learning in this model. Co-learning is neither static, nor purely philosophical. It must be continually cultivated from the lives and minds of the students and teachers engaged in the

interdisciplinary drama plays. Dialogue, questioning, problem posing, validating and communication, support and encouragement are critical activities which are pursued *throughout* this learning process. Indeed, it is not a step-wise process either (therefore the circular shape), as the elements of the model are repeatedly employed throughout the learning.

Cumulative Impact

Certainly some of these results are cumulating from the teacher candidates' continued work with the students during the first six weeks. But this would be the same case in any setting when classroom teachers use a specific instructional strategy with their students. They have a continuing relationship and rapport upon which the learning builds. As conducted in this case, the drama play scaffolds the constructivist, active teaching approach which the teacher candidates had been taught and used in the classrooms during the semester course. This strategy amplifies the impact as it is consistent and next-generation (taking the prior experience to a more advanced level).

Importance of Planning

The data gathered from the teacher candidates and the professor also reveal that planning has a critical role in the use of this teaching method. From the four teachers' pre-planning prior to approaching the classrooms to the extended classroom time spent on problem posing, exploration, discussion and deep dialogue, problem solving, performance and debriefing, extensive planning is required for successful facilitation and integration of interdisciplinary drama plays

Recommendations

There are three major recommendations we identify as important to draw from this case's themes and emergent model. These recommendations address teacher professional development, interdisciplinary drama projects, and strategies for facilitating critical thinking and problem solving skills

Different Approaches to Teacher Education, and Professional Development

Based on this and other studies, pre-service education, teacher education, and professional development does not have to be caught in a cycle of reifying traditional passive learning modes. (Erdoğan, & Baran, 2009). Instead, if teacher candidates experience, plan and envision pedagogical models which are interdisciplinary, constructivist and collaborative, they can create new types of learning relationships and dynamics. In fact these experiences can develop into co-learning communities among teachers and students.

This means colleges and universities need changes in teacher education. Instead of “Doing it as we have always done it,” educators, staff developers and teachers/teacher candidates alike must risk exploring interactive models. These innovations need to be experienced not only in our teacher education classrooms, but also in our facilitation of teacher candidates’ confidence building in their student teaching. This support may include providing support, hands-off oversight, or being a “guide by the side” as described in this case.

Moreover, from the analysis of this case’s data and the synthesis of the emergent themes, it is evident that drama play is a powerful strategy for cultivating a shift to alternative teaching models. Furthermore, drama plays provide additional benefits in being effective in increasing teacher self-efficacy and professional identity development. Such strategies may reap ongoing awards when used more often in teacher education and for teacher professional development.

Designing and Facilitating Interdisciplinary Learning with Young Students

The drama play project also serves as a model for effectively integrating learning different content areas. While many academic professional associations (NCTM, 2000) herald this as a recommended approach, educators do not always have ready access to appropriate examples and materials. This case and article provide both.

At the same time, interdisciplinary learning can be powerful in deepening and broadening student learning as they learn 1) that knowledge bases connect in a multitude of ways (history and math in this instance), 2) outside of the isolated silos of knowledge, and 3) within real-life context. And stated by the professor, “Because of the positive interdisciplinary learning process everyone internalizes because they are trying to solve the problem in which they are participating.”

Moreover these characteristics are critical because they parallel, nay duplicate, the reality of current knowledge building needs and 21st century knowledge, work, business, society and innovation (Enriquez, 2001).

As the teacher candidates described, “[Today we are] ...teaching and learning in challenging times.” Moreover these same teacher candidates recognize that Mathematics teaching and learning are important for us to prepare, “Creative and well-balanced students who will one day become creative and well-balanced individuals and citizens.”

Strategies to Integrate Critical Thinking, Active Learning, Collaboration

Building upon the interdisciplinary understanding and exploration of knowledge, student validation, voice and leadership, 21st century learning has been established as requiring critical thinking and problem solving skills. (Partnership for 21st Century Learning, 2008). This case study provides further recommendations for cultivating such skills. Specifically, the interdisciplinary drama play project revealed the power of integrating problem posing, problem solving, real life examples with active student learning, and collaboration. Even while some of these strategies might be used in many classrooms at times, when integrated into a coordinated extended learning experience, they are even more powerful.

Figure 5. Students Working on Mural Project of Lesson Learned from Drama Play



Figure 5 reveals the students in action as they ready their mural to represent lessons learned through the drama play. It also represents several of the specific effective strategies used in this project and recommendations for others including supporting

- student freedom and interpretation of role
- construction of student knowledge
- stretching student thinking
- student expression of learning (in this case, the mural.)

- student voice in expressing their understandings to their peers (in this case, *Math Congress*)

Indeed, one of the most comprehensive statements of the power of this interdisciplinary and integrated project was from the professor,

Not just the wise men or the king, but all participants can visualize and remember the details of the scenes, the play, and the mathematical learning. It is more than rote memory, it is internalized and learning which has been experienced in context. These are lessons which will last for their whole lives.

CONCLUSION

Drama plays, developed and implemented with the model described in this case, afford many important opportunities for today's teachers and learners. Developing young learners who have a passion for learning as relevant, interdisciplinary, discovery that involves creativity and others is a significant leap forward in developing independent thinkers and astute leaders. Building learning communities in our k-12 classrooms provides an immediate introduction to problem posing, research, problem solving, and critical thinking which are essential for success as 21st century teachers and students. Moreover, the validation, self-confidence, content knowledge, and self efficacy afforded by such approaches are seldom experienced in a test-and rote-focused instructional approach.

Recognizing the four team teachers who developed and implemented this project's insight and learning, we finish with a quote from them. The teacher candidates captured the essence of their project with the following statements.

[Such] new experiences provide new goals for building and sustaining learning communities in classrooms.

As future teachers, our goal is to help all students:

- ❖ Become successful learners
- ❖ Become independent thinkers

Ensure that they are capable of working together.

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Appendix I: The Magic Carpet Play

Scene I Throne Room

- Start in the king's room
- Announcement of the king's arrival
- King and his family march in when the music starts and take positions.
- Start in the king's room, they march in when the music starts and take positions.
- Master of ceremony calls the head of the weaver shop to come forward
- King orders a specific size carpet based on number of footsteps long for an agreed upon price.

Scene II Weaver Shop

- Head of weaver shop announces to workers the order from the king.
- Workers say head of shop, "Measure out the number of foot steps so we can start the work!"
- Measured, stapled together paper to make right length, rolled final product together, and called for messenger to announce that the "carpet" is ready

Scene III Throne Room

- Head of weaver shop standing at the entrance to the throne room
- King tells her to roll the carpet from the door to my throne
- The head of the weaver of the weaver shop happily unrolls the carpet and it is too short
- Astonishment and horror of ground, queen and everyone as it is too short
- King stands us (so the music starts and everyone stands up) and says, "Go to the jail, this carpet is no good. I will not pay you!"

Scene IV Court

- Hearing for the head of weaver shop is held, hearing both sides.

- The judge calls the wise men, who then tell the audience the history of the need for a standard unit of measurement.
- Wise men: From now on anyone, anywhere (holding up globe) needs to order with standard measure of meter.
- Head of weaver shops agrees to provide the missing part of the carpet
- King and family are satisfied and pay the hundred pieces of gold
- Happy ending!