

Make a Move:
Creating a Culturally Aware Community of Masters and Scholars

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Bio:

Sara Montejano is currently a senior in the College of Education. She plans to graduate from the University of North Texas in December 2010 with a degree in Interdisciplinary Studies and an additional ESL certification. This past year she presented her research to the Alpha Chi Honors Society Super-Regional Convention. Her paper was presented at University Scholars Day on April 15, 2010 and received a second place prize for research papers in the social sciences. After graduation, she plans to travel to Korea to teach English before returning to the University of North Texas to start her graduate studies.

Abstract:

This paper explores the experience of 30 university students in their final year of the teacher education program. This paper is the account of a teacher education program's attempt to serve a need in public school in the area observed, offering pre-service teachers the opportunity to interact closely with the area's Hispanic population. This study tells the story of a teacher education program working with the community and schools to improve the cultural perceptions of pre-service teachers.

Introduction

University comes from the shortened Latin phrase *universitas magistrorum et scholarium* meaning “community of masters and scholars” (University, n.d.). The university is an institution for higher learning and a place individuals can go to experience, enhance, and expand their knowledge. University students who enter into the field of education do so for a variety of reasons, ranging from the simple and pure love of children to the desire to make a difference. It is not common to find a pre-service teacher who enters the field with the longing to teach multicultural education or cultural awareness.

The role of the university is to prepare its students for their field of study. The growing of diverse populations within universities has resulted in the implementation of multicultural classes. These classes are taught through textbook reading and lecture. The university used in this study is one that was founded as a college for teacher training in 1890 and still provides students with the opportunity to develop as professional teachers. The students of the education program take three years of classes, which consists of the basic studies for the teacher education program. The multicultural classes required for a degree from this university are taken before the student reaches their internship. Once a pre-service teacher reaches the internship level, they are enrolled in methods courses. These classes rarely focus on multiculturalism, but rather, the material centers on practical application of lessons in the classroom.

The teacher education program is designed to prepare individuals as professionals in the field of education. In order to meet those needs, a pre-service teacher must be prepared to deal with the community in which they teach, both academically and culturally. The role of the teacher education program then becomes one that acknowledges this need and provides pre-

service teachers with the opportunity to develop cultural acceptance and values in order to be prepared to teach in a diverse student population.

Problem

The teacher education program should provide a service to its students as well as the surrounding community by preparing professionals who can succeed in the community it serves. The majority of pre-service teachers in this program are of a different culture than the schools in the community. The problem arises in the lack of depth and understanding of multicultural education by both the pre-service teachers and the teacher education program. According to Mary Hanely (1999):

multicultural education is more than holidays and food, it requires critical thinking with attention paid to complexity. It requires research and learning about the multiple perspectives involved in any historical or contemporary experience in order to understand the rich meaning therein. (p.2)

Purpose

The purpose of this study was to observe the educational phenomenon of Fiesta Math Night, which was the creation of a collaborative effort between a university's teacher education program professor and the schools at which the students interned. This event became an educational phenomenon with its attempt to rectify the disparity between cultural understanding and teachers' perception of their students, families, and communities. In observing the educational phenomena of Fiesta Math Night, this study also presented an opportunity to observe the changes in pre-service teachers over a semester long project that involved working closely with the surrounding school communities and the local Hispanic population.

Question

To what extent does the Fiesta Math Night program transform the non-Hispanic student, as measured by Krathwhol's Taxonomy of Affective Domain?

Hypothesis

It is envisioned that the pre-service teachers will be transformed by their second experience of Fiesta Math Night from responding and receiving cultural views to valuing and organizing with a culture different from their own.

Method

According to Anderson & Tunks (2008), the Fiesta Math Night phenomenon began in the fall of 2007. Anderson & Tunks described the development of Fiesta Math Night as collaboration between a mentor teacher and the mathematics methods professor of the university. The discussion led to the knowledge that the school had attempted this in the previous year, with limited success, and sought alternatives and a partner in the process. Following a discussion, an idea was born. Due to the predominant population of Hispanic students (80%), it was proposed that the “math night” become instead, Fiesta Math Night, with the intent to infuse fun into the evening. The agreement that was brokered included an adjustment in the mathematics and social studies methods courses to prepare the candidates to create a mathematics game that met state standards, while incorporating Hispanic cultural relevance in the game. The school agreed to advertise, prepare and provide school space, and support the candidates by guiding them toward valuable cultural relevance in the games. In a meeting with principals, it was agreed that the Fiesta Math Night would be presented in a second, predominately Hispanic school one month later. (p. 4)

Every year following 2007, Fiesta Math Night has become a major project for the pre-service teachers of this cadre. The process has been enhanced and added to since its inception. In the

first year, students met with multicultural professors to verify the cultural relevance of their math games to the Hispanic culture. Through this experience, the professor realized the importance of becoming familiar with the Hispanic culture before entering the schools. The following year, she invited various Hispanic students and professionals to speak about their culture to the class and welcomed non-Hispanic students to ask questions about the Hispanic culture. The second and third year also added an additional Fiesta Math Night, creating a total of three different nights in the schools.

According to Anderson and Tunks (2008), the Fiesta Math Night experience can be described as:

300 and 200 parents and elementary school age children (grades K-5), respectively [attended]. On each night candidates set up their game on tables, walls, and floors. Parents, grandparents, aunts, uncles, older siblings, neighborhood friends, participated in the games with their respective children. Teachers and building administrators engaged in conversations with parents and children, and observed candidates leading the games. PTA, scouts, and school program leaders sold nachos and drinks. The carnival atmosphere in the cafeteria transformed the school into a Fiesta of Fun, with mathematics engagement at the center of the fun. These events characterize the tenets of Zull's thesis; positive emotional activity coupled with movement and engagement of the senses. (p. 6)

After each Fiesta Math Night, the pre-service teachers reflected on their experience in the schools, including the reaction of the students and their parents, as well as the pre-service teachers' personal reflection on the experience as a whole.

This case study employed a qualitative analytical method, comparing the interns' responses to the Krathwhol's Taxonomy of Affective Domain to address the research question. According to Seels & Glasglow (1990), the levels of affective domain in the Taxonomy of Affective Domain, from lowest to highest, include: receiving, responding, valuing, organization, and characterization by value. Receiving is the awareness of or sensitivity to the existence of certain ideas, material, or phenomena and the willingness to tolerate them. Responding is committing in some small measure to the ideas, materials, or phenomena involved by actively responding to them. When someone values someone or something, it means they are willing to be perceived by others as valuing certain ideas, materials, or phenomena. To form organization, a person can bring together different values, resolve any conflicts between them, and begin to build an internally consistent value system. The highest level of affective domain is characterization by value, which is when an individual has developed a value system and acts consistently according to that value system. Figure 1 provides an overview of the taxonomy.

The documents reviewed included:

- Interns' responses to meeting with multicultural professor about relevance of game and responses to the Hispanic culture talk held during class,
- Reflections from the first game night,
- Reflections from the second game night,
- Reflections from the third game night, and
- Professional reflection of overall Fiesta Math Night experiences.

The 30 randomly selected pre-service teachers' reflective responses from these documents were uploaded into Google Documents with names removed and a number assigned to categorize and more efficiently track the interns' development. Each of the responses were

read a number of times and coded based on the level of Affective Domain perceived by the researcher. The language used in the interns' reflections when compared to Krathwhol's Taxonomy of Affective Domain determined the interns' level of cultural understanding and state of transformation.

Results

The results of this research were examined through the filter of the research question: To what extent does the Fiesta Math Night program transform the non-Hispanic student, as measured by Krathwhol's Taxonomy of Affective Domain? The results of the qualitative analysis were charted, comparing the pre-service teachers' responses to the chart described in Figure 1, which served as a lens for defining transformation. Each level of affective domain was assigned a number based on the level: 1 being the lowest affective domain (*receiving*) and 5 being the highest level (*characterization*). Figure 2 illustrates the level of affective domain of the pre-service teachers before the Fiesta Math Night experience and at the transformation throughout the process.

The first responses analyzed were the reflections completed after the Hispanic students and professionals visited the teacher education classroom. The responses analyzed showed the majority of pre-service teachers were at a low level of affective domain, the student-level average being a 1.05, which is very much in the receiving category of affective domain. The pre-service teachers in this study had completed between 3-4 multicultural classes before entering into the final year of the teacher education program and were at the most basic level of cultural understanding. Some of pre-service intern reflections were:

- "Hispanic people, particularly Mexicans, are not just Americans that speak Spanish."

- "I learned a little bit more about education and was able to eliminate some stereotypes that I had about the culture."
- "I now know that there is more to being a part of this culture than just being together and loving each other."
- "I know that it is possible to gain their involvement, but that it will be more work than I had anticipated."

The second responses analyzed were the reflections completed after the first Fiesta Math Night experience. The responses analyzed showed the majority of pre-service teachers were still at a low level of affective domain, the student-level average was a 1.43. The student average jumped .40 following a one-on-one direct experience with the Hispanic culture of parents and children. Some of pre-service intern reflections were:

- "I loved trying to communicate with the Hispanic families!"
- "There was a translator there, but I spoke as much Spanish as I could."
- "The parents were proud when their children got the correct answer and cheered or clapped when their child made the goal."
- "The parents at first sat on the sidelines and observed."

The third responses analyzed were the reflections completed after the second Fiesta Math Night experience. The students went to a second Title I school, and the responses analyzed demonstrated the majority of pre-service teachers had made a shift into the second level of the affective domain, receiving, as seen in the student-level average of 2.1. The student average changed over 100% from their initial experience and almost .70 of a level after their second experience with the Hispanic culture. Some of pre-service intern reflections were:

- "I also felt that the parents were more willing to participate."

- "I was glad to see that they were so interested."
- "I helped and communicated with students, parents and teachers."
- "I was happy that there was so much parent involvement."

The fourth responses analyzed were the reflections completed after the third Fiesta Math Night experience. The students went to a third Title I school, and the responses analyzed demonstrated the majority of pre-service teachers shifted to a solid level of responding in the affective domain; the student-level average was a 2.6. The student average jumped 155% from their initial experience and .5 of a level from their previous experience. Some of pre-service intern reflections were:

- "I had a lot of fun interacting with these kids."
- "I really wished I could have thought of some deeper cultural relevance."
- "I could also see the impact of adding Spanish to our games during this FMN and could see that many of the parents really appreciated having both Spanish and English available."
- "I think it was my attitude, I had so much confidence in being able to work with them."

The fifth responses analyzed were the professional development reflections completed at the end of the semester, reflecting on Fiesta Math Night holistically. The responses analyzed demonstrated the majority of pre-service teachers shifted almost to the point of value in the affective domain taxonomy; the student-level average was a 2.9. The student average jumped 185% from their initial experience and .3 of a level from their previous experience. Some of pre-service intern reflections were:

- "I really like the concept of Fiesta Math Night. It was great to work with all of the kids in all of the schools."

- "I will figure out more about the culture to add to my game."
- "Fiesta Math Night was an experience. It began with nervousness and trying to find a way to really integrate culturally relevant material into a math game, with a focus on the Hispanic culture. By the end of the third night I really felt like I was making a difference."
- "I learned a lot about myself as a teacher."

Figure 3 illustrates the overall growth of the pre-service teachers as a whole. This represents the average student level of affective domain after each cultural experience.

Figure 4 represents the individual growth of the student. The 30 pre-service teachers are defined by their year in the program: 7 represents the fall of 2007 interns, 8 represents the fall 2008 interns, and 9 represents fall of 2009 interns. The subsequent number is the student number that was randomly chosen in order to keep the sample group unbiased. Figure 4 demonstrates the transformation process, with few outliers. There were a couple of pre-service teachers who transformed beyond valuing and were able to reach a level of organization in a semester's time. After reviewing the data, it was evident that the majority of students at the end of the semester had made a transformation from receiving the Hispanic culture towards valuing it. In According to Kolb's (1984) terms, the pre-service teachers transformed through a cultural experience in the community.

Discussion

The hypothesis of this research was that by the second Fiesta Math Night the pre-service teachers would undergo a transformation process affectively from receiving and responding to valuing a culture different from their own. According to the data and research, this hypothesis proved to be incorrect.

The pre-service did undergo a great level of transformation, but it seemed to occur at the end of the semester. The majority of students at the end of the second Fiesta Math Night were still at the responding level of affective domain. It is apparent from these findings that it took four experiences and reflections for pre-service teachers to reach a level of valuing the Hispanic culture.

The capability of making a transformation with a culture requires personal change of affect. According to Zull (2002) the transformation process is broken up into three parts:

First is a transformation from past to future. Our experience is in the past, by definition, but the ideas we create are for actions we will do in the future. They are plans. Without this transformation we rely totally on the past and our reflections about it. Ultimately we rely on memory. But if we use our experience to produce new thoughts and actions we create a future. The potential of knowledge gained in this way is unlimited, and it can change how and what we do indefinitely into the future.

Second is a transformation of the source of knowledge from outside ourselves. Our experience comes from outside the brain, but the brain has the ability to turn that outside experience into knowledge and understanding. The new knowledge comes from within. We no longer need to repeat, or even remember, exactly what we experienced from the outside. It is a *change in the learner* from a receiver to a producer. Since we do not rely on the outside for understanding, we do not have to wait for new information to arrive to deepen our comprehension. We can move from passive to active and become creators of knowledge. The third part is a transformation of power. If we bring our entire brain into learning, we will find control passing from others to ourselves. We will know what we need for further learning and we will take

charge of getting it rather than remaining dependent on others. Our own brain will begin to give orders. We will move from a position of weakness and dependence to one of strength and independence. (pp. 33-34)

The question this research presented was: To what extent does the Fiesta Math Night program transform the non-Hispanic student, as measured by Krathwhol's Taxonomy of Affective Domain?

The research demonstrated that every pre-service teacher who participated in Fiesta Math Night gained a level of transformation when measured by Krathwhol's Taxonomy of Affective Domain. The majority of students came into the final year of the teacher education program with the lowest level of affective domain, receiving, with regard to the Hispanic culture and, after a semester, each intern left with a higher level of affective domain, the majority approaching valuing the Hispanic culture.

In response to the research question, the extent to which the non-Hispanic students were transformed was great. The average cultural level of a non-Hispanic pre-service teacher measured affectively was receiving, and in one semester, the average pre-service teacher transformed to beginning to valuing the Hispanic culture.

Conclusion

This research demonstrates the need for a culturally responsive teacher education program. According to Koerner (2006), teachers in urban schools must learn about the culture of their students in order to be successful. This research demonstrated that, in one semester, pre-service teachers can make a transformation affectively; therefore, if more cultural experiences were offered throughout the teacher education program, pre-service teachers would have the opportunity of a greater transformation. The Fiesta Math Night experience is a phenomenon, in

that, the interns who participated were transformed affectively through their cultural experiences. This program meets the expectations of preparing and advancing the cultural knowledge of its students.

The role of the university is to create a community of masters and scholars (University, n.d.), and, in order to create such a community, the university must strive to offer its students the most rewarding and educational experiences. A teacher education program must offer its students the opportunity to experience and learn from different cultures. The goal of both the university and its students should be to become and remain *universitas magistrorum et scholarium*.

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Figure 1. Learning Taxonomy – Krathwohl's Affective Domain

<p>Affective learning is demonstrated by behaviors indicating attitudes of awareness, interest, attention, concern, and responsibility, ability to listen and respond in interactions with others, and ability to demonstrate those attitudinal characteristics or values which are appropriate to the test situation and the field of study.</p>		
Level and Definition	Illustrative Verbs	Example
<p>Receiving refers to the student's willingness to attend to particular phenomena of stimuli (classroom activities, textbook, music, etc.). Learning outcomes in this area range from the simple awareness that a thing exists to selective attention on the part of the learner. Receiving represents the lowest level of learning outcomes in the affective domain.</p>	<p>asks, chooses, describes, follows, gives, holds, identifies, locates, names, points to, selects, sits erect, replies, uses</p>	<p>Listening to discussions of controversial issues with an open mind. Respecting the rights of others. Listen for and remember the name of newly introduced people.</p>
<p>Responding refers to active participation on the part of the student. At this level he or she not only attends to a particular phenomenon but also reacts to it in some way. Learning outcomes in this area may emphasize acquiescence in responding (reads assigned material), willingness to respond (voluntarily reads beyond assignment), or satisfaction in responding (reads for pleasure or enjoyment). The higher levels of this category include those instructional objectives that are commonly classified under "interest"; that is, those that stress the seeking out and enjoyment of particular activities.</p>	<p>answers, assists, complies, conforms, discusses, greets, helps, labels, performs, practices, presents, reads, recites, reports, selects, tells, writes</p>	<p>Completing homework assignments. Participating in team problem solving activities. Questions new ideals, concepts, models, etc. in order to fully understand them.</p>
<p>Valuing is concerned with the worth or value a student attaches to a particular object, phenomenon, or behavior. This ranges in degree from the simpler acceptance of a value (desires to improve group skills) to the more complex level of commitment (assumes responsibility for the effective functioning of the group). Valuing is based on the internalization of a set of specified values, but clues to these values are expressed in the student's overt behavior. Learning outcomes in this area are concerned with behavior that is consistent and stable enough to make the value clearly identifiable. Instructional objectives that are commonly classified under "attitudes" and "appreciation" would fall into this category.</p>	<p>completes, describes, differentiates, explains, follows, forms, initiates, invites, joins, justifies, proposes, reads, reports, selects, shares, studies, works</p>	<p>Accepting the idea that integrated curricula is a good way to learn. Participating in a campus blood drive. Demonstrates belief in the democratic process. Shows the ability to solve problems. Informs management on matters that one feels strongly about.</p>
<p>Organization is concerned with bringing together different values, resolving conflicts between them, and beginning the building of an internally consistent value system. Thus the emphasis is on comparing, relating, and synthesizing values. Learning outcomes may be concerned with the conceptualization of a value (recognizes the responsibility of each individual for improving human relations) or with the organization of a value system (develops a vocational plan that satisfies his or her need for both economic security and social service). Instructional objectives relating to the development of a philosophy of life would fall into this category.</p>	<p>adheres, alters, arranges, combines, compares, completes, defends, explains, generalizes, identifies, integrates, modifies, orders, organizes, prepares, relates, synthesizes</p>	<p>Recognizing own abilities, limitations, and values and developing realistic aspirations. Accepts responsibility for one's behavior. Explains the role of systematic planning in solving problems. Accepts professional ethical standards. Prioritizes time effectively to meet the needs of the organization, family, and self.</p>
<p>Characterization by a value or value set. The</p>	<p>acts, discriminates,</p>	<p>A person's lifestyle</p>

<p>individual has a value system that has controlled his or her behavior for a sufficiently long time for him or her to develop a characteristic “life-style.” Thus the behavior is pervasive, consistent, and predictable. Learning outcomes at this level cover a broad range of activities, but the major emphasis is on the fact that the behavior is typical or characteristic of the student. Instructional objectives that are concerned with the student's general patterns of adjustment (personal, social, emotional) would be appropriate here.</p>	<p>displays, influences, listens, modifies, performs, practices, proposes, qualifies, questions, revises, serves, solves, uses, verifies</p>	<p>influences reactions to many different kinds of situations. Shows self-reliance when working independently. Uses an objective approach in problem solving. Displays a professional commitment to ethical practice on a daily basis. Revises judgments and changes behavior in light of new evidence.</p>
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Figure 2. Reflection/Response Table

Year.Student #	Culture Talk	Fiesta Math Night 1	Fiesta Math Night 2	Fiesta Math Night 3	Professional Reflection
7.2	-	1	2	-	2
7.7	-	1	2	-	2
7.9	-	2	3	-	3
7.13	-	1	2	-	3
7.18	-	2	3	-	3
7.24	-	1	2	-	3
7.27	-	2	3	-	3
7.30	-	2	3	-	3
7.31	-	2	2	-	3
7.32	-	1	2	-	3
8.1	1	1	2	2	2
8.7	1	1	2	3	3
8.9	1	1	2	3	3
8.12	1	1	2	3	3
8.18	1	1	1	2	3
8.24	1	1	2	3	4
8.27	1	2	2	3	3
8.30	1	1	2	2	2
8.33	1	1	2	2	3
8.38	1	1	2	3	3
9.1	1	2	2	2	3
9.7	1	2	2	2	3
9.9	1	2	2	3	3
9.12	1	2	2	2	3
9.18	1	2	2	3	3
9.23	1	1	2	3	3
9.28	1	2	2	3	3
9.30	1	1	2	3	3
9.33	2	2	2	3	4
9.38	1	1	2	2	2
	Culture Talk	Fiesta Math Night 1	Fiesta Math Night 2	Fiesta Math Night 3	Professional Reflection
Average	1.05	1.43	2.1	2.6	2.9

Key				
1-Receiving	2-Responding	3-Valueing	4- Organization	5-Characterization

Figure 3. Average Affective Growths

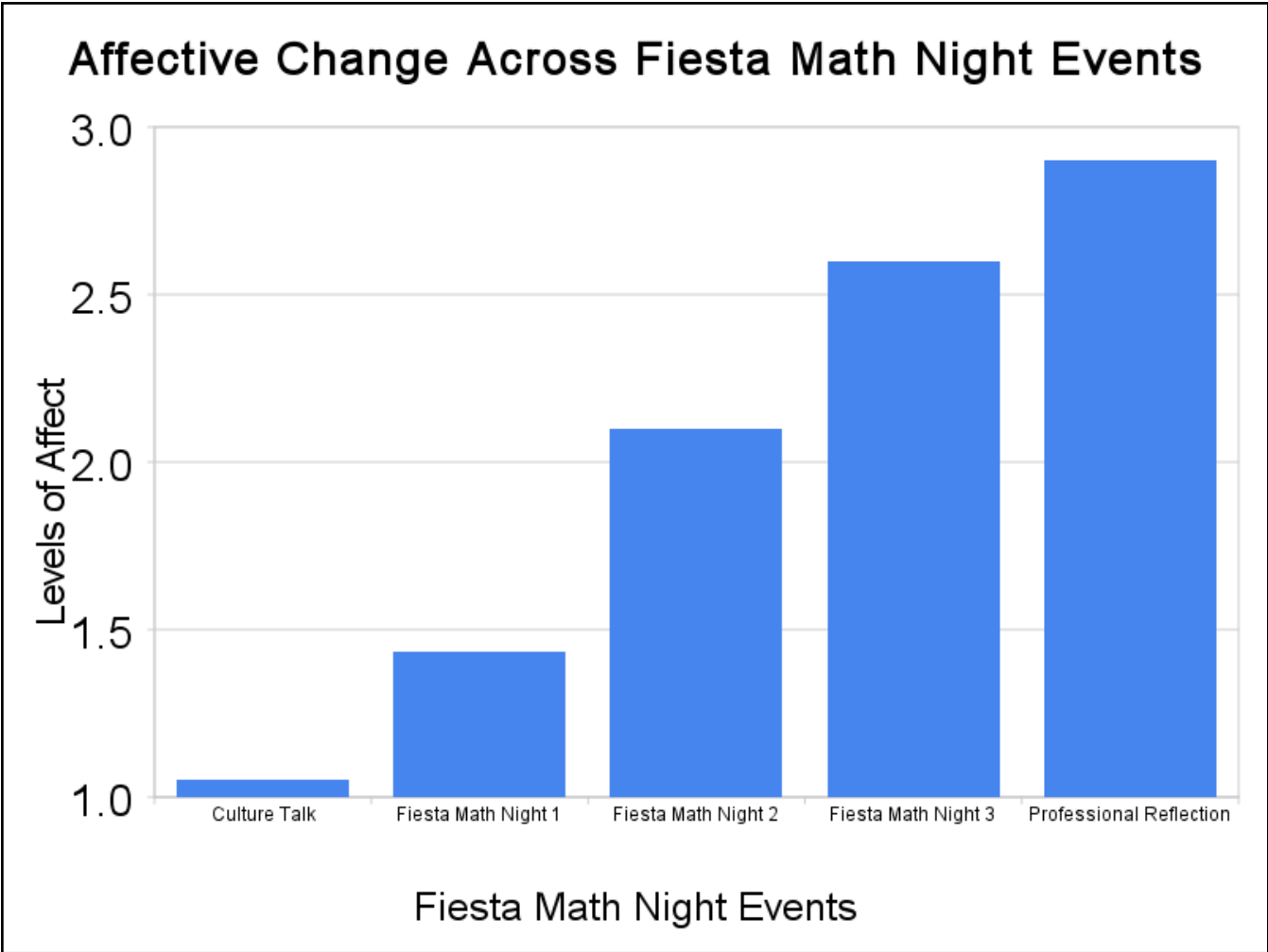


Figure 4. Individual Affective Growth

