

A Rural Community's Perceptions of the Importance of Math  
And Math Education in Appalachia

Summary Report  
The Padua Project

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ACCLAIM's mission is the cultivation of *indigenous leadership capacity* for the improvement of school mathematics in rural places. The Center addresses the mission through efforts to (1) understand the rural context as it pertains to learning and teaching mathematics; (2) articulate in scholarly works, including empirical research, the meaning and utility of that learning and teaching among, for, and by rural people; and (3) improve the professional development of mathematics teachers and leaders in and for rural communities.

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## Foreword: Advice to the Reader

We want readers to understand what is going on in this manuscript, and for this reason, an advance word from an editor seemed warranted. This monograph might not be what researchers in mathematics education or rural education will expect. What should readers know?

First, the fieldwork for this report, and most of the writing in it, was accomplished by *undergraduate students*—most of them reportedly are “non-traditional” (i.e., adult) undergraduates. More importantly, this report is the first formal effort of which we are aware to report the views of mathematics and mathematics instruction held by *ordinary rural people*. That is, the report deals with a topic suitably unexamined that it could serve as the focus of a doctoral dissertation, but it has been successfully approached by a group of undergraduates! The stories given here, in fact, come through with a force and naturalness that escapes the work of many far more experienced academic writers.

For the quick summary of the entire report, read the abstract that follows this foreword. For a longer summary of issues, read the conclusion section. But to hear the voices and apprehend the trenchant observations, read the interviews, for it is there that scholars in search of good work to do can find issues, tensions, and contradictions to explore.

The stories reported in the interviews *do* surface an array of fascinating tensions, contradictions, regrets, and aspirations centered on mathematics. One is the tension between the beauty and utility of mathematics in rural places. The relationship is dicey elsewhere in the world, but the connection between the truly useful and the beautifully true is especially problematic in the rural world (see, in particular, Alan DeYoung’s Working Papers for the Center). The reason is that rural schools are unique cultural



battlegrounds: In economically eroded places like the town in this study, rural schools help export young people, presumably to better lives elsewhere, after they complete high school. Communities (according to much rural education research) resent this function, and community members are understandably suspicious of the cultural entitlements (in the form of curriculum and instruction) that enable such export. As a gatekeeper to higher education, as Robert Moses has it, mathematics (particularly elementary algebra) occupies a prominent position in the operant entitlement.

Whereas rural people appreciate the natural beauty of the places they inhabit, access to the beauty of mathematics is far more problematic if curriculum and instruction in rural schools is understood as the arena of cultural contest that it really is. The arena, thus understood, is a predictably difficult one, of course, for rural students and rural teachers to occupy jointly.

Another tension represented in these narratives concerns the utility of mathematical knowledge in sustaining a rural community. Predictably, few rural mathematics teachers teach mathematics to this end. Such purposes, however, are at least arguable; but silence prevails. The odd thing about this oversight, though, is that it co-exists with a near-universal endorsement of the utility of mathematics for students' *individual* futures. Apparently, the utility of mathematics is acknowledged to pertain to the abstract rural individual but not to the communities of which such an individual is a part. There are plenty of theories that might be applied in the attempt to understand the evident contradiction. (The notion of curriculum struggle is one among several strong contenders—see, for instance, the work of Herbert Kliebard.)

The final example of an interesting tension concerns the nature of mathematics. During a recent radio interview, the American composer Philip Glass reported that he

began composing music when he was young because he wanted to find out *where music came from*. He now realizes, he disclosed in the interview, that he'd asked the wrong question. The right question, he concluded, was "*What is music?*" The profound question lurking in these interviews is "*What is mathematics?*" Definitive answers have often been given—thus revealing the improbability of a definitive answer. Seldom has the possibility been entertained that mathematics is what ordinary people think it to be. Yet, in a palpable sense, mathematics is partly that—a regime of practice in the everyday life of ordinary people (including the comparatively privileged classes of "professionals"). When people say that mathematics *is* what they use to maintain the checking account, determine drug dosages, calculate torque or pressure, or study the dynamics of wildlife populations they have a point, albeit one not much prized by most mathematicians—nor by many teachers of mathematics.

The narratives in this report predictably understand mathematics as arithmetic, or arithmetic-like verities. But a surprising minority of informants insists that algebra and geometry are part of "basic" mathematical knowledge. Additionally, most informants adhere to the mental map of math they learned in school: mathematics is figuring out a right answer, usually the one given in the back of a textbook. Interestingly, however, for some informants mathematics helps describe logic, clear thinking, and it harbors that special intolerance of nonsense for which mathematics is rightly famous. More intriguingly still, from a rural perspective, is a sensibility—I'd call it an intellectual sensibility—that associates such a view of thinking with navigating the perils of everyday life. One informant remarks: "Once you get out of bed, you have to start figuring." Applying logic and exhibiting an intolerance for nonsense is a sure-fire way for a person to experience interesting situations in life.

What are the shortcomings of this report, in the usual terms by which academic research is judged? The report presents no theory of, or formalized statement of, a problem. It offers no literature review, and its analysis of data gathered is comparatively thin. The discussion at the end does not critique, problematize, or wrestle with contradictions in the way “high-academic” research efforts do (that is, in the manner of the immediately preceding paragraphs).

The virtue of this “shortcoming” is that ordinary people can easily understand this research. There is, as well, much more to be done with this topic—as at the conclusion of any study that surfaces critical issues well.

Craig Howley  
February 1, 2005

## Abstract

In an effort to discern the perceptions of the importance or value of mathematics education held by ordinary people in Appalachia, a qualitative research study was performed in accordance with an agreement with the ACCLAIM Research Initiative. The study engaged the qualitative research method known as *folkography* and targeted the community of Padua (a pseudonym), in a state in the Appalachian south. The study was conducted in late March, 2004, by undergraduate students previously enrolled in a related course taught by the principal investigator. This report was developed from data analyzed after the completion of the field work. The student researchers collected nearly 650 surveys and conducted nearly 250 interviews with informants in three age groups (youth, adults, seniors).

Overall, Padua residents were quick to respond and eager to discuss mathematics and mathematics education. Informants were found to value mathematics principally for its utility, to esteem good mathematics teaching and good mathematics teachers, and few blamed any failure to understand mathematics on teachers. Many, however, appeared to believe that some mathematics teachers could be more sympathetic in their instructional role. Across age groups, informants easily related mathematics to other life experiences. Possibly because of the prevailing utilitarian outlook, many informants saw little use in the community or region for higher forms of math should the current economic decline persist in the region. Without improvement, youth were predicted to leave in search of more acceptable employment choices.

# A Rural Community's Perceptions of the Importance of Math And Math Education in Appalachia

## **Introduction**

Mathematicians and math educators agree on the importance of math in our ever-changing social and economic structure. Skills such as logic, design, business, and organization depend heavily on math for success. Yet, little information exists concerning the perceptions of the importance of math or math education in Appalachia. Educators were curious to know the attitude and perceptions of the people concerning math and math skills in this region of the United States.

## **Project Description**

Dr. David M. Lucas, Associate Professor of Communication at Ohio University Southern, led a team of 15 Ohio University undergraduate students (*Team Folknography*) into the targeted Appalachian community (Padua and surrounding area) for a qualitative field research project. Students studied an entire quarter about the process and implementation of the qualitative research method known as *folkography*. This method is especially designed to give common folk a voice. The actual field study served as a special project assignment for the quarter and for their final exam in the course.

Each field research team consisted of two or three students matched for their capabilities and skills. In the targeted community, *Team Folknography* collected data from 647 different individuals through a short survey, engaged in 243 different field interviews, facilitated 12 different *focus groups*, and conducted three *plenary meetings*. Along with these data collection techniques, field teams engaged in *contextual and*

*textual analysis*, took digital photos, and made numerous *field observations*. Data were carefully compiled and the field notes were used to construct narratives by all field research participants. These narratives were carefully edited and integrated into the analysis of data. In keeping with research ethics, pseudonyms are used in the narratives to disguise the identity of the informants.

Field teams sought to engage and interview three different age groups from the population. All rights and personal dignity for the participants were considered and protected at all times. The three categories of respondents included were *youth* (ages 10-17); *adults* (ages 18-55); and *seniors* (ages 56-and up). Oral consent was obtained from every participant. In the case of minors, the parent or guardian gave consent before the minor child was interviewed. The Institutional Review Board of Ohio University approved the plan for this study.

The research design purposefully targeted a specific Appalachian community that had no major research university in the general proximity. The researchers sought to measure the perceptions of the importance of math education without any overlaying or immediate influence from institutions of higher education. In other words, the researchers hoped to gage the common folk's thoughts and feelings about the necessity or importance of math education for themselves, their families, or their communities.

For the adult focus group and plenary session meeting sites, researchers purposefully avoided using school buildings or educational facilities and instead focus on making use of community fire halls, church buildings, and community centers for the focus group meeting places. Precautions were taken to prevent any *front load bias* about educational needs in a community.

## Mobile Field Lab

*Team folkography* employed a writing lab with digital equipment critical to the recording, editing, and collection of data. The writing lab consisted of 16 laptop computers networked, allowing the free flow and exchange of ideas, digital images, outlines, comments, and quotes. Each researcher submitted at least two narratives daily, composed from the field notes and observations each individual researcher made. Discussion and exchange occurred during daily debriefing sessions.

## Facilitation

Dr. David M. Lucas organized, facilitated, and directed the fieldwork from a central base that was set up in Padua. Dr. Lucas arranged and contracted all lodging, transportation, and meal accommodations in accordance with policies set by Ohio University. Careful consideration was given to the safety and security of the research team along with the minimal amount of impact by the team on the community at large. Dr. Lucas directed the daily activities and fieldwork of the research project.

## **Survey Results**

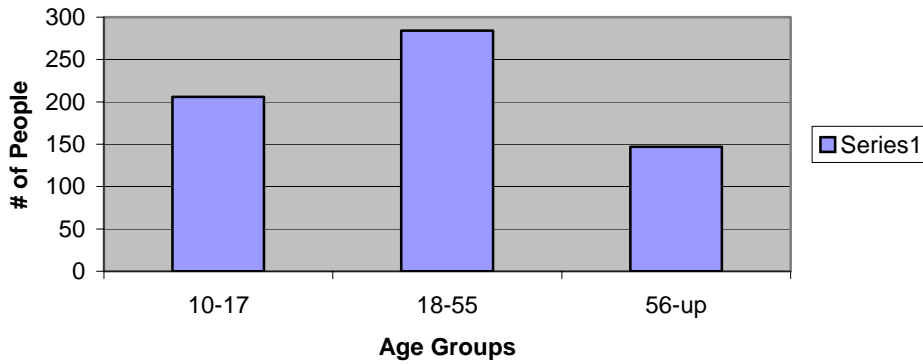
In an effort to provide some basic quantitative data and provide a foundation or benchmark for the study, researchers surveyed a total of 637 respondents or 20% of the total population of Padua. The survey instrument (Appendix B) was pre-tested in a random sample field test in the Ironton, Ohio, region for question clarity and usefulness. Some adjustments were made to the sample after the field test, but the survey instrument remained basically the same for the actual research activity. The short survey also served as an introductory step in case an extended qualitative interview could be engaged.

In brief, (1) adult respondents outnumbered school-age respondents 2 to 1; (2) female respondents outnumbered males by about 3 to 2; (3) a substantial majority of respondents in all age groups agreed that they “liked math” (“agree” was the modal response); (4) adults under age 56 agreed that they used math in their everyday lives (“strongly agree” was the modal response for that age group); (5) few respondents disagreed that knowing more math helped one obtain a “better job” (“strongly agree” was the modal response); (6) respondents agreed that the local schools did a good job teaching math (“agree” was the modal response); (7) all age groups agreed that learning math was important for the future (“strongly agree” was the modal response for all groups); (8) adults younger than 56 exhibited some skepticism that advanced math skills improved local employment opportunities; (9) all age groups agreed that math instruction should be required at every level of schooling (the modal response for both adult groups was “strongly agree” but for school-age respondents the modal response was “agree”); and (10) all age groups agreed that few jobs in the local area required advanced skills (“agree” was the strong modal response; “disagree” was the second most frequent response).

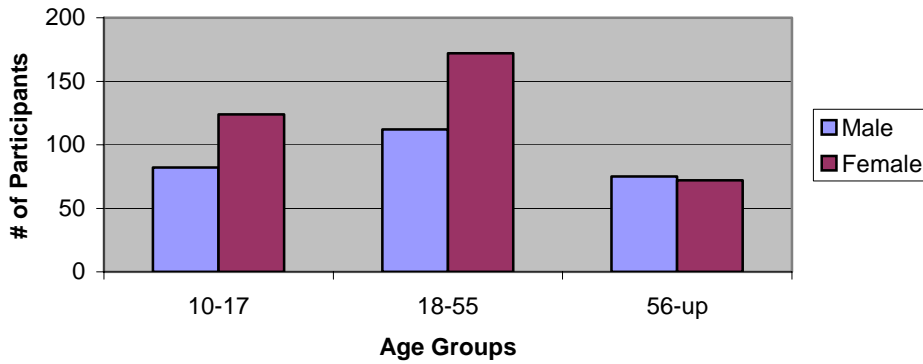
The responses could be further analyzed, and, in a quantitative study would be the focus of concern. Here, the survey results provide background only. They suggest a strong appreciation of the usefulness of, and consequently, the need for mathematics and for instruction in mathematics. Figures 1-10 display the survey results by respondent age group.



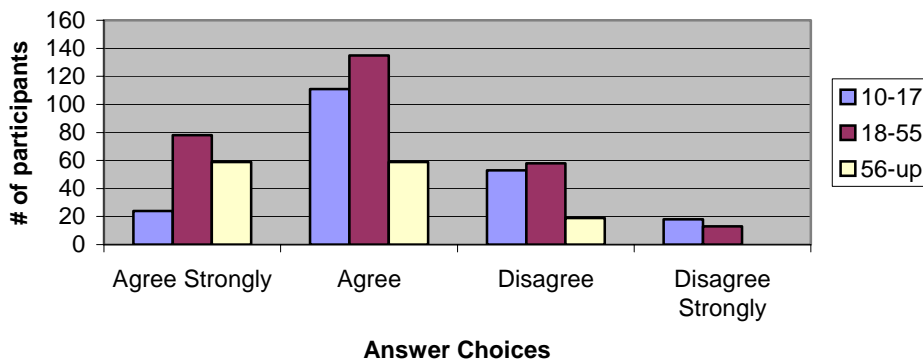
**Figure 1: Total Number of Survey Participants**



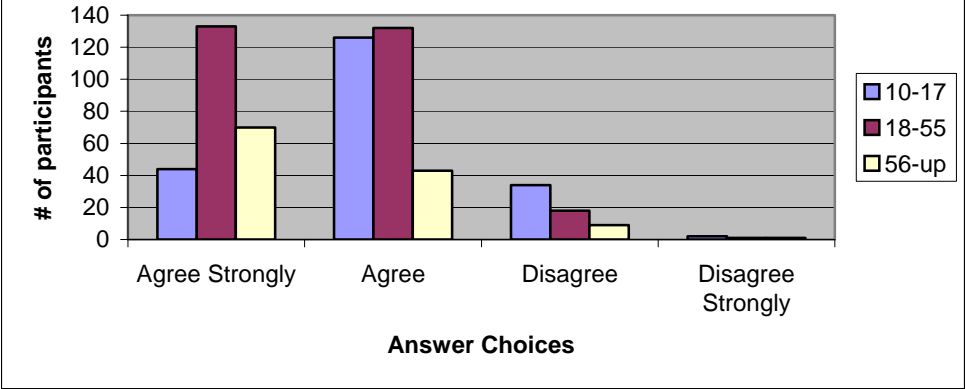
**Figure 2: Gender of Survey Participants**



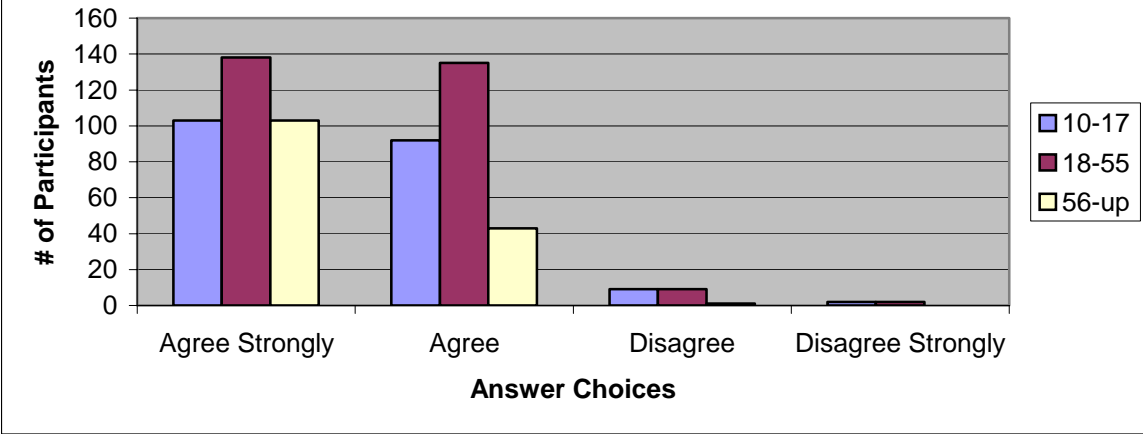
**Figure 3: I Like Math**



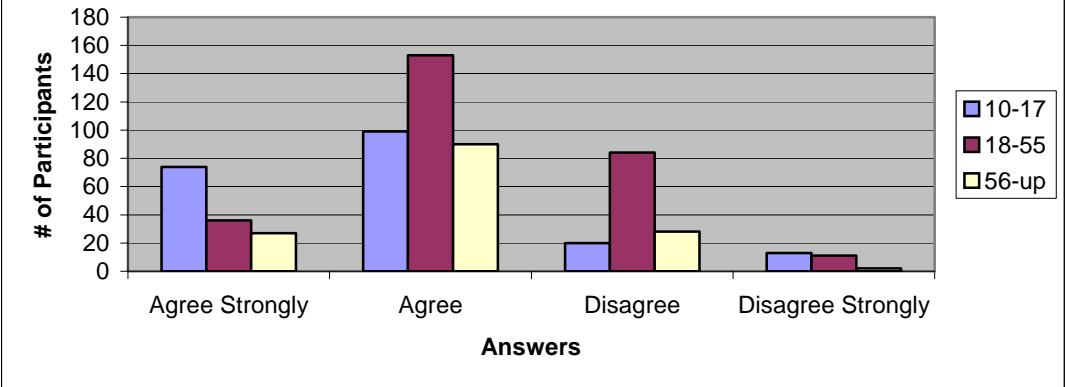
**Figure 4: I Use Math in My Life Everday**



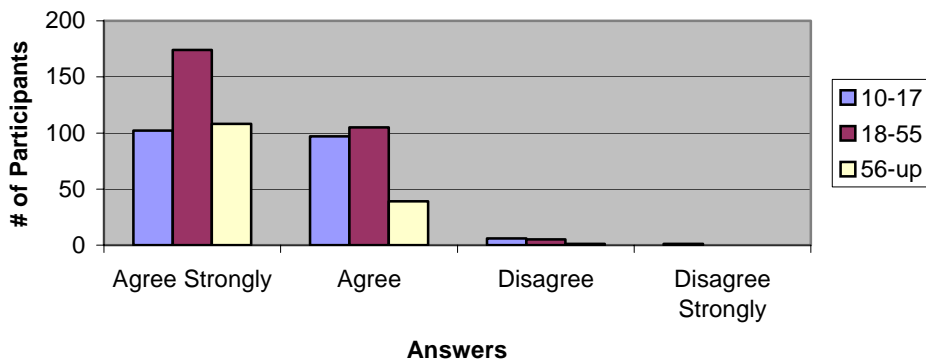
**Figure 5: Get Better Job with Good Math Skills**



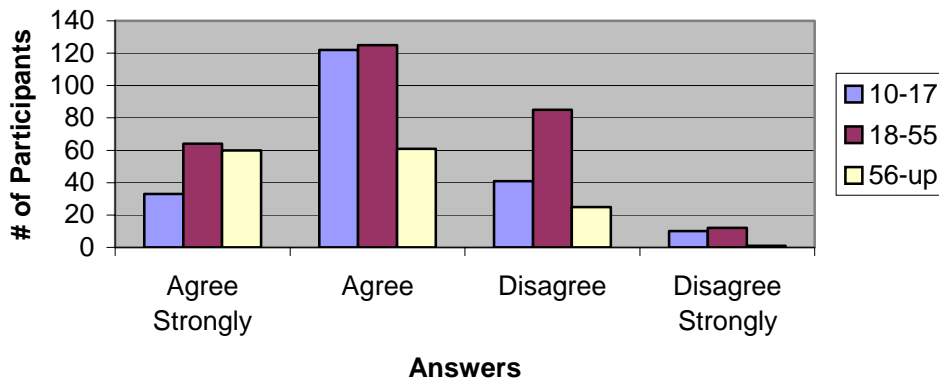
**Figure 6: Local Schools Do Good Job Teaching Math**



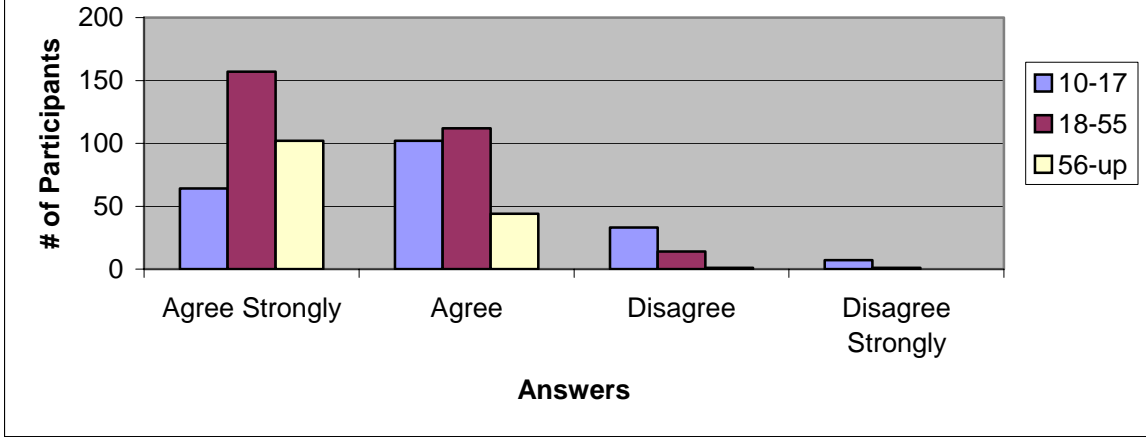
**Figure 7: Learning Math Skills Important for Future**



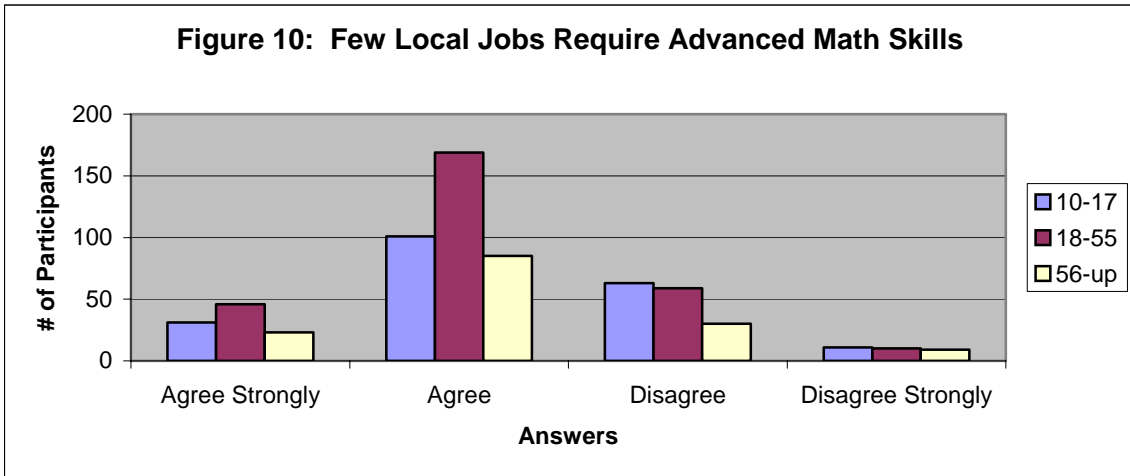
**Figure 8: Advanced Math Skills Increases Employment Possibilities in Padua**



**Figure 9: Require Math Classes at Every Level**



**Figure 10: Few Local Jobs Require Advanced Math Skills**



## **Interviews**

The central portion of this report consists of narratives developed by the Principal Investigator and the 15 student researchers. The purpose of the narratives is to represent the concerns and perspectives of the study's informants; indeed, this was the main purpose of the study per se. A secondary purpose, of course, is to introduce the student researchers to one sort of research work.

### Narratives by David M. Lucas, Ph.D.

#### Make Math Relate

He lifts his coffee cup to his lips one more time, using the moments to carefully consider his next words. We struck up this conversation at the counter because Susie, the owner of the diner, introduced us. He takes me in with a careful gaze and then returns to his mashed potatoes. "I know that math is important. My wife is a teacher. I trained as a forest ranger first and lived that life for five years." He pauses for a moment more, looking straight into my eyes again, weighing out exactly how much he should say. He ploughs on, "then I came over the mountain to Padua. I got a job with the lumber mill [he refers to a lumber company that continues to operate a lumber mill here after more than one hundred years] and I never did anything else. This is my home, but she's not much of a city anymore." He gazes away, looking past the meringue pie, past the diner walls, and into the past where I can only follow through his memories. "All of these old buildings used to be full then. Now, they stand empty. The mines used to provide 1,500 white-collar jobs!" That jolts me out of my listening mode and I can't stop myself from asking, "White-collar jobs? In a coal mine?"

“Sure,” he says, “think about it. You have the accountants, the managers, administrators, you know, the people that run things. All white collar. Big paying jobs. Not now. We traded white collar for white trash.”

I wince at the disparaging remark but he doesn't notice. He goes on, “My kids moved away. Can't keep them here with no jobs or no real living. But me and my wife, we love this place and we won't move. Not even with the tornado, we can't move.”

I seek a way to return to the subject of math by asking, “So is math important to the community?” “Sure it is,” he testifies, “I got my math in college at the state university. I didn't learn it in high school. Those teachers just wanted to bust my behind all the time. They didn't teach me math. Those professors at college, now they knew their stuff. They could talk it and they could teach it!”

I smile at this and think, “Good for higher education.” I know that's not his point, though. He's trying to say that the public schools in his day believed more in the board of discipline than in a board of education. “These days, you gotta make math relate, you know? You gotta get kids to see how math can make them produce and help them in all that they do. Kids these days just don't seem to care.” He shakes his head and I can't tell if he is done or if he is only thinking again. I wait. He eats.

Finally, he turns to me and announces, “I think what you are doing is important. We need people to care about the future of education. We have to get these kids to like math and learn to use math in all they do. You tell those people at your university not to give up. People need to learn math and we have to have trained people to teach it.”

As he rises from the counter, he flips some bills out by his plate. “I hope you have good luck with your study. Maybe your study will help others see that good education makes for a good town. God knows we need it here!” He walks toward the door, greeting

other patrons by their names. I decide he's right. Somehow, in all of this academic structure and bureaucracy, we "just have to make math relate!"

### Math and Ramps

I smile to myself as these folk from Padua keep promoting ramps. I must admit, I am not an onion fan. I have always heard that ramps resemble onions. I just don't know what to think about this. Since we arrived, everyone keeps telling me, "Padua is the ramp capital of the world!" I'm not sure that I would brag about that.

Then I ask myself the question, "how do ramps relate to math?" We're here because we want to find out about the perceptions these folk have about math and math education. Yet, as I sit quietly here in my restaurant booth, listening to this family talk about eating ramps, cooking ramps, digging ramps, and loving ramps, I think "How did we go from math to ramps?" I talk about math and these folk keep talking about ramps.

The young man holds up a fork full of cooked ramps (they smell like dirty, wet tennis shoes to me) and proclaims, "You gotta count ramps so's to know if you have enough for a batch." Now there's an interesting connection between ramps and math. Before you can eat them you have to count them! "They sell ramps by the pound," he continues. "Guess you have to know about weights and measures to do these ramps, too!" He smiles enthusiastically. He keeps forking them in his mouth. I must admit I've never experienced anything quite like this. "People come from far away to enjoy our ramps," he contends. "These ramps bring us hundreds of visitors every spring," he says with a confident nod. Other citizens of Padua tell me the same story. Every spring, people clean hundreds of pounds of ramps to offer to the demanding public. They offer up ramp jelly, ramp cookies, ramp mashed potatoes, ramps and eggs, boiled ramps, deep fried ramps,

and so forth.

We all shake hands and I walk out of the restaurant into the cool night air. I look up into the shadows and dark recesses of the mountains and realize up there, hidden in the rocks and crevices, stand hundreds of ramp plants waiting on the ramp gatherers to come. Harvesting ramps pays big dividends. Even the local Foodland grocery store sells ramps in season. I am amazed as I think about math and ramps. Math offers so many interesting connections! Who would have thought that ramps and math go hand in hand?

### Single Most Important Subject

I grab up my coffee mug and head toward the man sitting at the far end of the counter. I ease onto the counter stool beside him as he looks at me like he's been expecting me all along. I notice his ball cap. Trimmed in black and yellow, the cap promotes a Daytona Beach biker's event. I'm not a biker. I know nothing about motorcycles, but I can tell that he is *Harley Man*. I look over his black leather Harley Davidson motorcycle jacket as I ease into the conversation like I eased onto this counter stool.

"What kind of bike do you ride?" I ask. He turns to me and without smiling says, "A Harley," I feel a little silly because, now where do I go? I trudge on hoping that prior training and creativity will help me transition from motorcycles to math. "What year of bike is it?" I question. I'm hoping I can get this interview in gear. "I ride a 2003 Fat Boy." I smile again because I think of atomic bombs, not a motorcycle. I'll take his word for it. What do I know? The *Fat Boy* must be the father of all bikes. In any case, I'm back at this interview.

"My name is Dave Lucas and I'm from Ohio University. We're doing a survey on



math here in Padua. Ok if I ask some questions?” “Sure,” he agrees, “fire away.” I begin the questions we have pre-planned. I sound conversational. I’m into it now. All of a sudden, he just takes off on his philosophical thoughts on math. “I didn’t graduate from high school. I had to quit in the seventh grade. Never even finished. But, a man can’t get away from math. Lookie here,” he says like I might look away or something, “you have to do your check book you know?” He continues, “I ended up in the Marine Corps. Used math there too. How far away is a place? Had to use math with the compass. I’ll tell you what I think...math is the single most important subject a man can learn!”

This declaration of his stuns me. I look back at my notes because I am sure he said he quit school. Yes, my notes are clear. He quit school. Gingerly, I broach this topic. “So, even though you had to quit school, you like math?” I ask. “Sure. Times were tough back in those days,” he explains. “I had to quit. But, I always liked math. I enjoyed it quite a bit. I still use math. A man uses math in whatever...you know...ordering lumber, building something, like I said the checkbook. It’s always important.” I wait and realize he is finished so I ask about various levels of math.

“Algebra, I don’t like,” he volunteered. “Never saw much use for that. I remember when my son came home from school with a note from the teacher. Said I needed to sit down and help him with his homework. [Several deleted expletives.] How was I gonna help him when I didn’t even know what they were talking about?” His face shows the pain of the memory of his lack of ability to help his son. Before I say anything, he launches again. “I couldn’t help him. It was all a big mystery to me. I can figure real well in my head...better than on paper...but I don’t know about that algebra.”

I notice he keeps looking over my shoulder like he sees someone he knows, or maybe he’s waiting on someone. I can’t tell. I push forward. “So, do you think math is

important for the community?” Now he stares at me for a full minute or more. Did I say something wrong, I wonder. His eyes glaze over. He’s looking through me. He’s somewhere else. Then he very softly says, “Everything requires math. The man that’s got math has got it all. In the business world, you gotta have math and the more you got the better. Big man’s got a big payroll to meet and things...well...he’s gotta know his math to make it all work. Having math comes in pretty handy.” I can’t, for the life of me, figure out the soft-spoken turn. Maybe this math is a secret or a mystery that only a few can figure out.

His volume increases again. “I was 31 years in the coal mine. I was a coal mining operator. I sure wish I could go back to school and do the math over again. I wish I could have stayed in school. I just pushed levers.” That’s what the quiet tones mean. The soft-spoken words signal regret. He wants to go back and do school. I want that for him.

Minutes pass and we conclude the interview. He walks away alone. He walks away with his regrets. I hope in my heart that something we are doing here may stop another person from walking away from their math and their education. I remember what he said to me earlier. “Math is the single most important subject in the world.” For him, I know that is true.

### Ponytail

I admit that I want that lantern in the hardware store window. I generally don’t shop during these research project journeys, but I need the old-fashioned kerosene lanterns for the Appalachian log cabin I am building back in Ohio. The color, quality, and look of the lantern in the window make me want to check it out. Some of our folknographers have interviewed the owner, but I push open the door because I want to

check out that lantern.

I enter the store and the smells of oil, cleaners, and dust fill my nostrils. “This is old time Appalachia,” I think. A man behind the counter, who I take for the owner, is talking to a man in a white t-shirt and a pony tail. He’s older. His face is lined with years of hard work and worry. The hardware store owner sells hardware...the advice is free. He’s giving *Ponytail* some advice now.

“So, I can cut the pipe to size and you just buy the fittings that you need to make up your run.” *Ponytail* notices me as I enter, but turns back quickly to face the store owner so he won’t miss any instructions. *Ponytail* has pipe in his hands along with some fittings. “Well, I’ve been on this job for about two weeks, off and on, between work and so forth. Seems like I’ll never get it done.” He waits to see if the store owner will comment.

The store owner looks up at me and says, “I’ll be with you in a minute. My friend here had his home wrecked during the tornado and I’m trying to help him get his gas pipes run.” “No problem,” I say. (Padua suffered a bad tornado and the place was devastated). “I just came to check out your lantern here,” I say as I pick it up for a closer look. Secretly I hope to talk to *Ponytail*. I don’t remember anyone logging an interview with him.

“You’re that professor that has those students here this week, right?” asks the store owner. “Busted,” I think to myself. He blew my cover. “Yes, sir. That’s me.” The store owner decides to observe Appalachian courtesies and he introduces himself and then introduces me to *Ponytail*. They have the advantage because I am wearing one of our identification nametags around my neck. I shake hands with both men. “We had a couple of your boys in here the other day,” says *Store Owner*, “Good boys. We had a

good talk about math.”

*Store Owner* turns to *Ponytail* and says, “These folk are here from Ohio to find out what we think about math.” *Ponytail* laughs and says, “That’s just great. I’m tryin to figure out how long I need these pipe pieces cut and a professor is here to grade me on how well I’m doin!” He laughs again.

“No...I just grade my students. In fact, we hope you folks can teach us a thing or two. We came to learn from you,” I say sincerely. “You folks will give us the grade.”

*Ponytail* looks at me for a moment. He seems not to know what to make of me. Then he asks, “You had any ramps since you been here?”

Once again, I will have to figure out how to get from ramps to math. I want to smile, but I don’t. I don’t want to make *Store Owner* or *Ponytail* angry. They may think I’m laughing at them instead of the ramps. “No, haven’t eaten the ramps yet. Been waiting for just the right time,” I add.

“Any time is the right time for ramps,” proclaims *Ponytail*. “Tell you want I mean. I was workin’ yesterday. Hadn’t eaten all day. Lady neighbor of mine knows I’m workin’, so she brings down a meal to me. Beans, cornbread, fried pataters, and ramps. Oh, God bless America,” he says as he throws his hands up and out and then shouts, “that’s what I call living in America!”

I can’t help but smile. These folk have living down to an art form. “Well, let me ask you some questions, then...if you don’t mind?” “I don’t mind friend, just let me set these pipes down here in the floor and I’ll tell you all about math.” *Ponytail* sets the pipes in the floor and moves over closer to me and my lantern. He eyes the lantern but says nothing about it. “What do you want to know?”

“How important is math for you life here in Padua?” I ask him.

“Well, you gotta have the math. I read the tape measure with math. I mix my fuels with math. I order my materials with math. If ya think about it...we can't live without math.” He squares his shoulders back and clears his throat. I can tell he wants to say more. “You gotta have math to get a good job. People that can't figure ain't too smart. If you want to be smart, you gotta have math.”

*Store Owner* has been listening. He jumps in, “I told your boys yesterday, ‘I can't run this store without math.’” Everyone, including me, is very happy now that we all believe in math. I'm just curious to find out how much math these two had in school. I pose the question and neither one speaks for a minute or so. Dead silence fills the hardware store.

*Ponytail* speaks first. “I quit school. Had to work with my dad. Guess I'll say that I had as much math as I could take before I lost my chances.” He lowers his head and I feel a tinge of sadness for him. *Store Owner* chimes in, “I had math. I run my store with it.”

The rest of the conversation turns toward the weather, lack of jobs, and the loss of prosperity in Padua. I just keep thinking that the people of this region, if given half a chance, can sure make a person feel a part of the community. I pay for my lantern, say goodbye to my new friends, and head out the door. I walk out with much more than a kerosene lantern. I walk out with a newfound appreciation of what makes up America.

### Narratives by Kayla Stapleton

#### The Coffee Club

As we walk through the snow we shiver and shake from the cold. Opening the door, we feel a heat wave rush against our bodies and begin warming us. The Restaurant

appears to be deserted until we see them: The Coffee Club. They all sit in the back of the establishment, squeezed in a booth or sitting on stools at the bar, their mugs of black coffee in hand. The members of the Coffee Club drink their coffee as they watch us enter the restaurant.

The four of us are getting comfortable on the bar stools at the other end of the building. Two of us ask for black coffee and the other two want Pepsi. The waitress sets the drinks in front of us, and as she does teases the Pepsi drinkers: “Pop this early?” But she says nothing to the two who have chosen coffee. Our driver, who is wide awake and an eager beaver, is already walking toward The Coffee Club. He introduces himself and gives a brief description of our project. The rest of us slowly stagger to booths and stools closer to the group; we are tired. It is only 6:30 in the morning, but our caffeine is commencing to do its job, giving us the extra jolt we need to start our day.

Introducing ourselves to the club members, we talk about who we are, where we are from, and tell them some more about our project. This gives us our introduction for the interview. We ask members of The Coffee Club if they feel math is important for their lives. *Mr. Clerk* comes alive. He says he is the county clerk and that his job is book keeping and also involves a lot of inventory. *Mr. Clerk*, a tall man, is graying but retains his charming boyish good looks. He also happens to be the only member of the group who is not retired. He says, “Now days, I have to use a calculator to do my job, because the numbers are so large. But the thing with that is I had to know how to do basic math before I could even know how to do it on a calculator.”

*Mr. Sales*, the next to speak, is a medium-built man with dark hair flecked with white and stunning dark brown eyes. He chimes in, “I used to own a car dealership, and in doing so I had to stay ahead of the game so I could compete with the competition. If

some one beat my prices, I lost business and that was not good. So, I had to know how to use math, so I could get the best dealer's price on a car and so I would know how much of a discount I could give and still make a profit for myself." *Mr. Sales* says that he did attend some college level business math classes and he feels strongly that they were his saving redemption.

I believe that although the older generation didn't have as many opportunities to take advanced math they still did the best they could with what they had to work with. In some cases they even realized the great need for math and attended classes so that they could better themselves, their families, and their community. The Coffee Club members were showing us that they comprehended the enormous need for math in today's society, and also the impact it has had in the past.

#### Teachers Get a Raw Deal

*Mr. Electric* is a retired electrician with mostly gray hair and brown eyes. He is an eager participant, and he has heard about our study. He starts the interview for me by saying, "I use math everyday, especially when I am working." *Mr. Electric* says, "If I didn't understand math, in my line of work as an electrician, I could have easily made one wrong move and I would have been dead from the shock."

*Mr. Electric* believes that receiving a better math education would have given him greater skills, which would have allowed him to either advance in his career or even to own his own business. Yet in the next breath, he tells me that he doesn't feel that advanced math should be required, but it should be offered. "If the individual knows what they want to do with their life then let them take the math. Otherwise they shouldn't have to worry about it. In other words if they can't do it there is no need to fail

them.” I smile because now he is starting to speak more openly.

The next thing I know he is on his math soapbox. He tells me, “The teachers are getting a raw deal. The teachers are to blame for the lack of math education or the failure of math programs in our schools, but it is the parents, community, and dumb state laws that are causing the problems. The main reason the students fail is because they have no respect for teachers or anyone else anymore. No respect in the classroom leads to no discipline and that can mean no education. It’s that simple.”

“No one makes their children behave any more,” he continues. “They need to start when they are young so they will behave when they are older. Then they pass dumb laws saying the teacher can’t paddle kids and that if the parent or the teacher does whip’em, they can go to jail. Put the paddles back into the hands of not only the parents but the teachers as well, and then you’ll see a change for the better.”

Listening to *Mr. Electric*, the solutions sound simple. Yet, most of us know that no resolution to complex problems comes that simply. How will a child not disciplined at school or home have the discipline to study and learn the essentials of life? How do math and discipline relate? As Dr. Lucas tells us, sometimes in folkloric studies, we come out with more questions than answers. It looks to me, though, that unless something changes, the future of Padua’s youth seems bleak.

### Candy Man’s Wife

*Candy Man’s Wife* is extremely receptive to my questions. She feels that she uses math everyday and couldn’t do anything without it. The woman loves to sew and makes many of her own clothes, sheet sets, and little knickknacks to adorn her home. To make her new curtains she had to know how to measure the window to get the right size and to



be able to cut the material out correctly. If she had “figured,” in her words, any of this incorrectly, it would have been a waste of material, her time and her money, because the entire project would have been ruined. *Candy Man’s Wife* says that without the proper math education she would not be able to run an efficient household.

She tells me about her late father, a carpenter. In her father’s day people were mindful to not waste anything, mainly because they didn’t have anything to waste. He had to be careful to not misuse the customer’s money. People were short on money, and waste on his part could easily result in him not being paid in full. To do his job efficiently he had to be exact. To do that, he had to know math. I was told that when he completed a job, the scraps that remained would fit into a small, brown lunch bag, because he had measured and planned so tediously.

*Candy Man’s Wife* joined the Padua Volunteer Fire Department when her husband decided to join. At the time the Fire Department was in need of an EMT to ride with them on calls. She decided that since her husband was taking training to be a paramedic for the department, she would go with him and take the training to be an EMT. This training required her to learn much more math. She stayed with the Fire Department for seven years, working along side her husband. She quit when her husband quit, due to their age.

She is adamant about children learning how to do math and having a proper math education. She says: “In my day, everything in school revolved around the three R’s: Reading, Writing, and Arithmetic. If I had not learned that in school I don’t know how I could have gotten along in life.”

She is telling me of another venture on which she her husband had embarked. They had owned a small country store called Murphy’s Five and Ten, in which

everything was either 5 cents or 10 cents. *Candy Man's Wife* tells me that they used one of the old cash registers in the store. It was the kind that you had to add the bill up and add the sales tax in your head or on a piece of paper; then she would enter the amount in for the sales record. After that she would also have to calculate the amount (if anything) she owed the customer in change. "In my day, calculators were new and you had to be rich to own one, and even then the calculators were so large that they were not a convenient device to have. It was much easier to carry a pencil or pen and paper or better yet just know how to do it in your head."

### Off to Church We Go

Approaching the church, it appears old and has seen better days. One thing does stand out: The windows are gorgeous stained glass. The church announcement board, which displays when church services are and who the pastor is, also explains the drab appearance of the outer building. The building was erected in 1905; it is nearing its one hundredth birthday. I comment on the age and the beauty of the church when a lady in her mid-thirties with short, brown hair informs me that this Presbyterian Church was the first church built in Padua.

Inside the building looks quite different. While the outside is visibly aged, the inside shows a mixture of old and new. One can still see some wear in the church, which had once been a solid foundation of the community. Now only a meager population attends the once-thriving building, making it seem barren. The narrow, carpeted aisle shows signs of many years of people walking down it to the altar. But not everything is worn. The building has been refurbished at some point in time, and the pews appear cleaned and freshly polished, although they are unpadded.

The church building's welcome is not the only welcome we receive. The people of Padua greet us with open arms, shaking hands with us as they invite us to have a seat and enjoy the message. One lady walks around and passes out bulletins to all in attendance. Padua's mayor attends the Presbyterian Church, and seeing us walk into the church, he rushes to thank us for coming. Everyone in attendance this morning, after hearing about our research project, becomes highly enthusiastic about our study, making them ready and willing interviewees.

Our pastor for the day is the youngest church member. He is nice, but not exactly what I had expected. The church meeting itself is nothing like I am accustomed to attending. I attend a Christian Holiness Church, and in my church we don't have a strict schedule. We have a guideline to follow, but that doesn't mean that is the way it will go. In this church I am feeling like an actor in a play, because the church bulletin clearly defines how the service is "being played out." It tells me when I am standing, when I am singing, when I am praying, when I am to meditate, when I am to give an offering, and when I sit down.

We are making our way down the narrow stairway after the sermon, to the luncheon, to which we have been pleasantly invited. At the top of the stairs, our mouths water as we get a whiff of the wonderful foods that await us at the bottom. Before our eyes the table is laid with jambalaya, a roast beef casserole, salad, fresh shrimp, and so much more. Once again the hospitality is clearly evident, and I feel like I am making new friends.

### Sally Homemaker

Traveling the streets today, we meet with few who are willing to cooperate in our

study. Going door-to-door, we find that people either are not home or avoid us. We approach another home, feeling more discouraged with every closed door.

Finally we have some light in the darkness. A middle-aged woman comes to the door in a pair of blue jeans, long sleeved shirt, and a plaid vest. We begin introducing ourselves, and she puts a big smile on her face as she says, “Oh, yeah, I read about you all in the paper, and I also saw an announcement on cable about you all being here.” *Sally Homemaker* eagerly welcomes us into her home. It is a mini refuge for us, for it not only warms our bodies, but our hearts as well. We get to interview an interested party, because we learn that she is a retired teacher.

“I need math. It is a necessary skill that I couldn’t get through life without,” the retired teacher says after I ask her if she likes math. I ask how she uses math in her everyday life, and she replies, “I use math in everything I do: when I hang my curtains, when I program my remote to my television, when I cook, when I sew, and when I plant my garden.”

*Sally Homemaker* says she always did enjoy math in school. She tells me that her father was a teacher, and he liked to teach her the lessons he taught his students. *Sally Homemaker* recalls that she many times knew how to do math problems before her teacher taught them, because her dad would have already have taught her how to do it. She also relates that she became a teacher to follow in her father’s footsteps. Now that she is retired, she spends her days at home doing what ever she sees fit.

*Sally Homemaker* says that the schools need to require more math classes. She feels that whether the children use the math or not, the leaning process will at least expand their minds. *Sally Homemaker* also said that because she had not been given the chance to take higher levels of math in high school, she had to take eight extra hours of

math classes in college so she could obtain her teaching certificate.

I ask *Sally Homemaker* whether she thinks it would be a good idea to offer math classes to adults and seniors in the community. She replies that something like that is greatly needed in Padua, but she also feels that not many people would attend. *Sally Homemaker* says, “It is probably just because few see the need for learning math skills or furthering their education.”

According to many here in Padua, good educators are getting older and retiring; leaving in their place a few who are educated, a few who just don’t care, and sometimes an empty void. It appears the system may need a little work, but not all the blame should be placed on the teachers. Many things in this community seem to contribute to the problem, because a problem is only what you will let it become. If some intervention occurs and the root of the problem is discovered, one will easily see the actions we must take to fill that empty void.

### Bob the Builder

Entering the hardware store, we can see that no one is there yet except for the lady cashier behind the counter. *Bob the Builder* is a carpenter who frequents the lumber company morning coffee group. He comes in, walks to the coffee stand, and pours himself a cup of coffee. He is also hearing an earful about our project here in Padua. Some in our gang have already interviewed the cashier, and she invited us to come and talk with the contractors that gather at the store to start the morning out.

*Bob the Builder* isn’t sure he wants to be interviewed or even surveyed, but after some more information he is agreeable. I know that he is a carpenter and that he uses math every day, but I want to know what he thinks. I ask him how he uses math in his

everyday life. He says, “Well I’m a carpenter. I have to be very precise in my measurements thus, I use math in everything I do. I have to know the difference between a two-by-two and a two-by-four and so on.”

He says he can only solve basic math problems, and that he doesn’t feel confident when doing algebra. *Bob the Builder* thinks that math should be required at every level of school. He especially feels that math should be a required course every year.

He says, “It is kind of strange that I am a carpenter, because I hated math in school. I would so anything to get out of math class. So, a bunch of us guys decided that we would take home economics just to get out of math class.” I ask him if his life would have been different if he had taken advanced math, and he says, “Heck yeah, I would be making the big money! I would be a doctor, a lawyer, or something like that.”

#### Narratives by Brandon Balandra

##### The Naval Undertaker

My research partners and I walk down Main Street, and we see the sign for the Padua Monument Company. As we walk up to the door, an older country gentleman comes to the entrance, says “Hello,” and invites us in. We walk in and my partners decide to move on to find other interviews. I decide to interview and survey the old man. I ask him if he would like to fill out a survey and answer some interview questions about math. He agrees and begins to fill out the survey. Upon finishing the survey, he tells me that he is not much of an Ohio University fan roots instead for the state university, and hopes he did not offend me with that comment. I say “no problem,” and begin the interview.

I ask him about his feelings about math, and he tells me that it is very important

and that everyone needs to have a strong math skills. He tells me that at this point in his life he has two jobs: one as the proprietor of Padua Monuments and a local cemetery, and the other as a part-time funeral home employee. He says that he retired a several years ago with 28 years of service with the funeral home. He tells me that he learned most of his math skills when he enlisted in and served in the Navy. He then returned here to Padua and taught chemistry and mathematics in the local schools as a substitute teacher. He says he enjoyed teaching but really loved the business of the funeral home.

I continue to ask questions, and he tells me that his math education did not prepare him for what he needed to succeed in the Navy, but the Navy got him very interested in math and gave him the motivation to continue his education into the college of mortuary science. He says that a community math class would not be very well received because the area of Padua is not exactly a retirement community and but it is a good place to think about retiring. He also tells me that he knew that math was important and he made his son do well in math and all other subjects. His son now is retiring back here to Padua to begin running the businesses full-time.

I thank him for his time and leave him with information about our project.

### Oh Brother

As I walk down Main Street I see a building with large glass windows. There are few items in the window. I wonder if this business, like many we have already passed, has closed. To my surprise, I find the door is open. This is Digitown, a local computer-training center. Inside, where several people are talking, one man says “Hello” and asks what he can do for me. I tell him that I am with Ohio University participating in a research project about the perceptions of math and math education among the people of

Padua. He then introduces himself, and agrees to fill out a survey. After he finishes it, he tells me that his goal as the operator of Digitown is to teach young people in Padua, motivate them to get a good education and to return to the community. He readily agrees to my request for an interview. He tells me that he feels math is important, and that everyone needs to have basic knowledge of math. He tells me that he is originally from Los Angeles, California, and arrived in Padua by doing some work here during his college days.

“What have you noticed here in Padua?” I tell him that many of the buildings here in town seem to be unused and without tenants. He says “True, but you notice that there are not any people here “like us.” I agree and continue on with my interview. He tells me that he enjoyed taking math in school and that he continues to educate himself in all subjects, including math. He says that if math were not required in school he would have still taken it, because he uses it everyday as a co-founder of Digitown and as the G.E.D. class instructor, and that his math education helped him get where he is today. . He tells me that the teachers that reached him were the ones who could teach math creatively and get him interested in it. He feels math should be required in all levels of school.

After I conclude the interview, he goes back to the purpose of his operation. He tells me that Digitown is an educational center for the residents and youth of Padua, offering educational guidance and technology training. He exclaims proudly that he is finalizing a grant for equipment and expertise to install broadband Internet service at Digitown for the community Padua to use.

### My Religious Experience



My day begins with breakfast at the restaurant with my fellow researchers. We chat about the day ahead and about the excitement and interest in attending services at a local church. I continue to eat with excitement and a little apprehension due to the fact that I have never attended a church service before. I worry that I will not be accepted and that church members will not be receptive to strangers entering their environment.

At the Padua church, an old woman welcomes us and gives us bulletins about the day's service and upcoming events at the church. She guides us to the door of the main hall of the church, and I feel the excitement of crossing a barrier that has been in my life for 25 years. To my surprise, the members welcome us to their church and say that they are very glad to see us. I feel a sense of calm and acceptance from the congregation. The service begins with an opening prayer and the greeting from the pastor, a woman dressed in a burgundy robe. We sing hymns at the beginning of the service and again before the sermon. In her sermon she talks about the book of Leviticus, and the message as I interpret it is that the blood of Jesus takes away our sins when we confide in him and confess our sins. The sermon concludes with another hymn, and the pastor then greets the congregation. She welcomes us to their church and wishes us success on our project. My fellow researchers and I explain the purpose of our project and tell the members that we will be in town for the next five days and look forward getting to know the perceptions of math/math education in Appalachia. We say "thank you," get back in the van, and head back to the Four Seasons Motor Lodge.

Attending my first church service makes my experience here in Padua better and makes a difference in the way I live my life. I now begin to understand the culture here in Padua and what church service means to the people of this community. I now am making the transition from Padua *outsider* to Padua *temporary resident*. I welcome this

opportunity and look forward to getting out in the community and interviewing the people to get the perceptions of mathematics and math education—and learning more about myself as well.

### Engineering Pastor

During a skating party held by the church, a middle-aged man asks me about our project. I tell him that we are learning about the perceptions of people in Appalachia concerning math and math education. He agrees to an interview as he is getting his son and daughter ready to skate.

First I ask him his feelings about math. He says, “Do I have to?” I ask him to just give a brief description of his feelings concerning the subject. His answer is unexpected. He was a formerly an electrical engineer and attended a college and a university elsewhere in the state. He says the he feels math is important, not only to himself, but also for his family. He explains he enjoyed taking math in school and that it led to his former career as an electrical engineer. He feels that he is successful at solving math problems, but only the ones he needs to solve. He tells me that the upper math that was required during his college education was a “waste of time” and that he never used it in his work as an engineer. He says the highest math used in his occupation was algebra, which he used to calculate current and power amounts needed for the plant where he used to work. He says, however, that his life would have been a lot different without the math skills he acquired in school. Nonetheless, he adds that his life path would have still led him to where he is today—attending seminary and serving as pastor at another local church. He strongly believes that Algebra 2 is the highest math needed in the educational system, and that anything higher should be taught in college.

I then ask him how well math was taught in his school. He tells me that his math education was more than adequate, but his geometry teacher did a bad job explaining postulates and theorems to him because she did not know them well enough herself.

I conclude the interview by thanking him and asking him to fill out a survey for the project. He accepts it and tells me he thought I was going to give him a math test. I laugh as I collect the survey and shake his hand and thank him for the interview. We continue our conversation, watching his children skate. I ask him what brought him to Padua from Milltown. “Do you want me to tell the truth?” he says. “They were the only place that would hire me.” He invites my teammates and I to attend his church on Wednesday night to help us in our project.

### Game Boy

In the Digitown computer lab, only a few young people are present, taking advantage of what the lab has to offer. I ask a young man playing an Internet adventure game if he would like to complete our survey. Even before I hand him the survey, he tells his friends, “I’m great at math.” After *Game Boy* completes the survey I ask to interview him, and he agrees.

I ask what he feels about the word “math.” *Game Boy* replies, “Math is a fun word and easy to spell.” I laugh—and ask him if he feels math is important. He says that he knows math is important, not only to him, but to his friends and family. He says that he knows that math is important to his future plans to become a video game designer and programmer. He tells me that he is very successful at solving math problems, that he rarely uses a calculator in school, and that if math was not required he would still take it because “you have to learn math to pay the bills.”

He pauses to help a friend with his game; then we continue. He tells me that he knows advanced math is important, but will be hard. He says he looks forward to taking it in college to help his video game studies. While he likes math class in school, however, he says he does not enjoy the “one thousand problems a night for homework.”

I ask what he plans to do after he graduates from Padua High School. He replies, “I am leaving Padua and never coming back because there is nothing here.” Then, as I get ready to leave, *Game Boy* concludes: “My computer and video game career is just a back up plan, because I am going to be a professional basketball player.”

#### Business Teacher

At the Padua High School Office, the principal introduces me to the business teacher. She guides me to a room where she fills out a survey, and I ask her for an interview.

She answers my questions with enthusiasm. She says that math is very important, not only to her, but also to her family and students. Although she says she enjoyed taking basic math classes, she says she did not enjoy taking other math classes in school; that seems odd since she teaches business math at Padua High School. She says basic math classes should be mandatory for all students in the Padua school district. She tells me that *life skills math* has been discontinued and math teachers instead emphasize advanced math courses, because of mandates from the state board of education as it implements standards in keeping with the Federal *No Child Left Behind* Act. At this point she pauses and asks cautiously, “You do not need my name do you?” I reply “no.”

She explains that many of the parents of the children she teaches do not care about their children’s education. She says many of them are under educated and know nothing better than being unemployed and depending on welfare. She also tells me that

she feels a lot of people around Padua do not think the teachers keep up with technology to which students are exposed.

To my surprise she says she has been teaching for more than 30 years. She keeps up with the times and learns various computer programs and applications to use with her business class students. She has been contemplating retirement and may teach only one more year. She knows, she says, that a replacement teacher will not be hired and that the students will be losing the only certified business teacher in the Padua school district.

As I thank her and get ready to leave, she asks me, “Why Padua? This is not Appalachia.” I explain: “Padua has been chosen because it has kept a great many of the Appalachian traditions and comes closest to the true meaning of what Appalachia is.” I again thank her and she wishes me the best of luck on my research. [*Note: the county in which Padua is located is among the 398 counties in the region specified by the Appalachian Regional Commission as comprising Appalachia.*]

### Narratives by Michael Qualls

#### In-Charge Man

I am sitting in a darkened work-study center. The place offers people training and provides a hangout for young people. The man sitting in front of me seems to be the director. The office has wood paneled walls and cubicles for several office spaces, some unused. Several cats move in and out of the office and cat odors fill the place. *In-Charge Man* appears to be in a great mood, with a huge smile on his face.

I ask his feelings when he hears the word math. “I like math, it is one of my better subjects. It wasn’t my major, but it is good for me. I always liked math and I keep up with a lot of numbers.” The conversation is interrupted by an unexpected phone call. He

hangs up and we continue.

“Math is a part of everyday life, knowing how to count and to tell if you are receiving the correct amount of money. Sometimes I can beat cashiers on old registers to totals; I can do the problems in my head faster than they can. Math doesn’t play a big part in my life, but I use numbers to keep monthly statistics here at work. I feel today’s youth should stop learning at algebra. Kids don’t use calculus.”

I ask how well his teachers did when he was in school. “I am good at math, so the teachers must have done a good job. I dropped out of school, and my last math class was pre-algebra. I got my high school diploma in the service. We get lots of the dropouts here, and they just roam the streets. They need math, that’s for sure. People feel education is not important in this state; people working stores can’t even count their change. Things like that have to change. Kids don’t want to learn. They need someone to push them.”

### Math Teacher

At the local high school, my research partner and I meet *Math Teacher*—a bald, rotund man with glasses who looks like a mix between Grizzly Adams and a professional wrestler. We interview him in his classroom as he eats his steaming lunch. The windows make up the entire back wall of the room, the sun lights up the room.

I ask what he feels when he hears the word math. “Math is very important.” Pausing to think, he continues: “Without math we would be living in caves. Math is the language of technology.” Leaning back in his chair and looking into the hallway, *Math Teacher* says, “Most people don’t realize how much they use math. They use it for finance and even getting to work on time.”

“How did you do in math class when you were in school?” I ask. “I enjoyed math some, but I’ll admit I was a bit of a rebel. My biggest problem was the homework. I even failed math classes. My home life wasn’t the best. I became a math teacher to give the students a different way of leaning. I don’t care what side of the tracks they are from; I am only interested with their performance in class.”

I ask, “If math were not required in school would you still have taken it?” With a straight face, and after thinking for a moment, he replies, “Yeah, I feel strongly for math being taught in every grade. But, life skills math is not taught. What is required by the state is not what these students need. These kids need to learn how to read time, read a tape measure, and understand credit and debt. The average person needs to know basic math, not the academic math. Math should be taught as much as English in our schools.”

I pose the next question: “How would your life have been without math? “Life would have been much harder for my family and me I think. I would have lost lots of money, worked construction, built homes; my life would have been more costly.”

I ask, “What about your teachers when you were in school? How did they do?” He pauses again, strokes his chin and then says, “Some did an excellent job, and some didn’t do so good because of homework. A poor teacher is a poor teacher and we have had lots of them.”

The bell rings and, entering the room, *Math Teacher’s* students fill the seats still awash in sunlight. *Math Teacher* looks around the room and starts talking with a student. I thank him for his time. As I leave, I see his now-cold lunch on his desk. He had not taken the time to eat.

Narratives by Erica Melvin

### Lumberjackette

At the restaurant, my research partner and I open the door and look around. I speak to the girl at the counter, *Lumberjackette*, and ask to see the manager. She tells me that the manager is next door, so I ask her if it's okay if we hang out and maybe get some interviews along the way. She agrees and then volunteers to do an interview herself.

I ask her what she thinks when I say the word math, and automatically she replies, "School." She says, "I use math everywhere! In my job here at the Lumberjack using a cash register. But," she adds with a smile, "since I want to be a doctor, I expect to use all kinds of more math." She says that she has had a lot of math including, "Algebra 2, chemistry, and trigonometry." She says that she does not use a calculator for algebra, but for chemistry and trigonometry students are required to use graphing calculators. If math were not required in school *Lumberjackette* would take math classes anyway and most definitely expects to use math in her future. She likes advanced math, even though it involves more studying. She tells me that the teachers do not give a lot of homework, but they do work with the students to explain things to them. After graduation she says that she will "probably not" seek a job in the Padua area, because she is planning to move out of the area.

I thank her for her time, order some hot chocolate, and walk over to a booth by the window where my colleague is sitting. We wait for around an hour and only one couple comes into the restaurant, and they are not interested in our study.

### Coffee Chief

I wake up early this morning around six a.m. to the sound of my roommate opening the curtains to the window and gasping in awe at all the snow that fell during the



night. After breakfast of a biscuit and half an orange, my group decides that we will visit the local Dairy Queen. At the Dairy Queen, I tell the manager what we're doing here and ask if he would mind us hanging around and chatting with some of his customers. He agrees and we walk to a booth in the corner.

We see our first interviewees of the day, two gray-haired, older men sitting in the corner with steaming cups of coffee. Each of us chooses an interviewee.

*Coffee Chief* tells me that he used to be a police chief, as well as the constable for the county. He says that he likes math and had to use it daily as the chief of police. He tells me that math is important in his life for a lot of reasons, but he does not give me a lot of detail. He just says, "To get ahead, you gotta have it."

*Coffee Chief* tells me that he enjoyed taking math in school, and that it was his favorite subject. He tells me that he had a great teacher, even if "I was whipped everyday." He informs me that he used to be good at solving math problems but that he no longer is able. "Math is a lot like a woman," he adds. "If you don't keep up with her, you lose her!"

*Coffee Chief* has very bad sight and hasn't really been able to see well for several years, so his math skills have not been tested on paper as they had been in the past. He hopes recent surgery on his eyes will significantly improve his sight. He says that although he loved math in school, he does not know what level of math should be required for children in school these days.

He explains he no longer uses math daily, but believes "it would be nice to offer classes to retired adults in the community. A lot of times you forget with age and the classes would be a great way to keep up on math." While he was in school, his teacher used the blackboard a lot and not (of course) a calculator. He received a basic math

education that did not include algebra or any advanced math. He concludes by repeating, “To get ahead, you just gotta have math.”

### Grandmother Queen

I sit in Dairy Queen sipping a Sierra Mist, looking around with my research partner, searching for our next interview candidates. I see two ladies in their mid-forties walk into the DQ and stroll up to the counter to order. After they finish their lunch I ask for an interview.

The ladies are extremely open to us. *Grandmother Queen* lets me know that she heard what we’re doing in town yesterday “through the grapevine.” While she and her friend fill out the short surveys, the manager of Dairy Queen comes over and asks if he can take a picture for the newspaper. We agree and he snaps away with his camera. When the surveys are finished, I ask *Grandmother Queen* if we could move to another booth for some privacy and she graciously complies.

We choose a booth at the back of the restaurant and begin our interview. She tells me straight off that math is very important in her life and that she uses it every day. She hangs wallpaper and paints rooms for a living and she has to use math every day to measure paint and wallpaper and figure out her pay. She also uses it in balancing her bank account, as well as in shopping. “Without math I wouldn’t be able to tell how much I would get off when the stores have a percent off sale.”

“Math is all around important in my life. You need math in every walk of life. From Kindergarten to 99 years old, math is important. It never changes. My husband is a coal miner and he uses math every day. Without math you’d miss a lot.” She shakes her head in emphasis.

*Grandmother Queen* says, “When I was in school I didn’t like math. I didn’t fully understand it and got lost when we started doing fractions. The teacher moved at her own pace and if you didn’t get it, she moved on anyway. There were three groups of students: the smart kids, the middle ones, and the slow ones. If the smart kids grasped the concept completely, the middle ones were just beginning to understand it and the slow ones didn’t get it at all. Once the smart kids got it, the teacher moved on. I didn’t graduate, but I did go back to school to get my GED.” In fact, she contends that her GED helped her greatly in her present career: “Everyone who didn’t finish school should get their GED!”

The math education she received could have been much better, however, she says. She believes that if she had more math courses she could “venture out into more territory [in the work force] that requires more math – perhaps at a factory or even teaching.”

*Grandmother Queen* believes that schools should offer the highest levels of mathematics possible. “Don’t limit anyone’s math opportunities or skills,” she says. “My math education consists of just the basics with a little algebra. I just wish I had more.”

While *Grandmother Queen* is enthusiastic about math, by the time her granddaughter, who is now in first grade, reaches fifth grade, it seems possible that the granddaughter’s math skills will be greater than those of the *Grandmother Queen*.

### Fisherman

My colleague and I are en route to the ice machine at our accommodations when I see *Fisherman*, an older gentleman, to whom I had spoken earlier in the day. After I return from the ice machine, *Fisherman*, smoking his cigar, and I chat about his day, his fishing experiences and the NCAA tournament on television tonight. He asks me about our experiences in Padua and I say that it’s been great so far, even if we have not done a

lot of sightseeing.

When I tell him that we are communication majors, not mathematics majors, he is surprised. We talk a little about our mathematical backgrounds and he expresses firm belief that math is important, but it's not something that he is fond of. He tells me about his educational background. *Fisherman* grew up in a small town in another part of this state. He transferred in high school to a larger, more developed school, in the state capital.

*Fisherman* remarks that while he was in elementary school and junior high school he did not receive very good math instruction in his hometown and that when he transferred to the school in the capital he was "behind" the students there. His math teacher did not seem the least bit interested in helping to instill in him a desire to study math. The teacher, he said, didn't seem to meet his needs, nor did *Fisherman* do well when he tried to catch up on his own. "She knew I was behind," he said, "but she just didn't seem to care. It was my problem."

His beliefs about math education seem to stem from these past experiences. He is intelligent and has a good job as a supervisor at coal mine. *Fisherman* believes that math is important in his life. He thoroughly loves Padua and appears likely to remain for the rest of his life in Padua. *Fisherman* says, "Math is sort of like an old friend. You shake hands everyday but you know that you can't get too personal." With that, we both move to our separate rooms.

#### Sergeant Cornbread

On Sunday morning the women in our group attend one church in Padua, and the men another. We enter church and the members welcome us to their service. When the

service is over, we wait until most people have left so that we can speak to the pastor.

While we are waiting, members of the congregation thank us for coming and invite us back. As I sign the visitor's log, I hear Pastor Tim speaking to my colleagues behind me. He tells them that he would love to hear from our professor and gives us his phone number to pass along. We leave with many goodbyes and travel on to our next destination, another church, for a chili and cornbread meal, to be followed by interviews and focus groups.

I sit across from an older man with gray hair and weathered skin. *Sergeant Cornbread* begins the conversation by asking about me, and then I reciprocate. He was a sergeant in the army for twenty years. He served in both Korea and Vietnam. I begin questioning *Sergeant Cornbread* about math. He tells me that it was and is his favorite subject. He found it very interesting in school and although he does not use math much now, he has used math constantly in the past. *Sergeant Cornbread* thought that math was very important in his life when he was younger, but that now he “doesn't have the life in him to fool with it.” He says that he typically lets the bank handle his money. However, he tells me that he used math daily in the army as a sergeant and while doing survey work outdoors. While he was still in school, his teacher made “math very interesting.” *Sergeant Cornbread* actually had the same teacher from junior high school all the way through his high school graduation: When it was time for his class to move to high school, the teacher moved along with them.

I ask *Sergeant Cornbread* if he was successful at solving math problems. He replies that he used to be, but he's forgotten a lot of his higher math education—algebra—although he can still do basic math. He believes that in high school all the education a child needs in mathematics is algebra. He says that teachers nowadays try to

cram too much information into a child's head and to limit that education to algebra only would maybe solve that problem. He says that youth will not need that much math education anyway, unless they plan to attend college. "My philosophy is...basic math for basic jobs and advanced math for advanced jobs." He doesn't comment on how one would know what kind of job they would seek in their future.

When I question him about offering math classes to retired adults in the area, he seems a little irritated and replies, "No! If they want it maybe it would be ok, but they have to be willing to learn. You can't teach old dogs new tricks." The final thing that *Sergeant Cornbread* tells me, again, is that algebra is the only math education he needed in life. He had to use it in the military with the elevation of guns and such, although the computer does that now. He concludes with, "Let people decide what math they want. That's the American way."

### Madam CEO

I walk up the steps to the only hospital in Padua. I walk through the first set of front doors and am enveloped by the typical smell of a hospital. I am directed to the CEO's office. I walk in and introduce myself and she says she's happy to meet me and agrees to take my survey.

She tells me that math is her favorite subject and that she took all the math classes she could in high school. She now has an accounting degree and is a Certified Public Accountant. She tells me that she uses math daily in her job. Because Padua is a small town and the hospital itself is small, the employees there wear many different hats. Not only is she the CEO and hospital president, but she is also the chief financial officer. She is in charge of projections for the future and writes many grants. She uses math every day

at work, as well as balancing her checkbook and shopping at the grocery store. “I work with professional people who are all extremely good at what they do,” she said, “and they just don’t all have good math skills.”

She tells me that when she was in school, she was very good at math, even attempting to tutor her fellow classmates. “I think some folk just cannot always seem to grasp the topic,” she says. She took Algebra 1 and 2, as well as plane geometry, solid geometry, and trigonometry. She won the Padua High School Math Award, which is awarded at graduation to the student with the highest average in math classes over all four years of high school.

She tells me that algebra and statistics should be required in high school, and classes such as trigonometry, geometry, and calculus should be offered, but not required. To my surprise, she said that her younger brother, who graduated from Padua High School, went to the state university and was actually more prepared than other students there, although he was worried that he would be “behind” in math and science. “This area has always produced some fine mathematicians!” she exclaims.

### Ranger Jane

Our van, The Rusty Silver Bullet, rolls up outside of the ranger station in a nearby park, and inside I meet *Ranger Jane*. When I ask *Ranger Jane* what she thinks of when I say the word math, she just laughs. She does not like math.

*Ranger Jane* tells me that math is important because she has to use it daily to “balance her checkbook, to figure out how much money would be lost if she borrowed any on a loan, and daily in her profession.” When she was in school she didn’t mind math, because she was good at it. *Ranger Jane* tells me that she got A’s in math classes

until she took calculus—and then she got a C.

*Ranger Jane* has a background that differs from most people in the Padua area, though. *Ranger Jane* attended high school in Pittsburgh, where the teachers, she says, made math seem easy compared to what she hears about in school today. “Children in school today should be required to have at least algebra and lots of basic math!” she says. “But math needs to be fun. You learn better that way. Everyone needs math. They at least need to know how to balance a checkbook!”

*Ranger Jane* says: “I don’t have a natural knack for solving math problems.” When *Ranger Jane* was in high school, she says, she would not have taken math classes for fun, but “I can’t imagine life without math.” When she was in high school she took measurement, statistics, trigonometry, and geometry. She uses a lot of her quantitative research as a forest ranger. *Ranger Jane* says that rangers use a lot of tools that involve math skills, even if the tools do a lot of the work for them.

She concludes: “Math is very important in everyday life. Whether a person in balancing a checkbook or working at a ranger station, math skills are something that will never be forgotten. Math is necessary in every walk of life.”

### Smokey’s Grandma

After the interview with *Ranger Jane* is complete, the rest of the rangers and employees agree to at least take a survey, and the majority agrees to be interviewed. I step back and watch others interview. I walk out and see the receptionist again. She says, “You can interview me!” I agree. This lady is over 65 years of age and reminds me of someone’s grandmother, so I call her *Smokey’s Grandmother*.

She tells me that she is in a program for lower income seniors that help them get



into the workplace, and that's how she has this job. We begin talking about the reason I'm here – mathematics. *Smokey's Grandma* tells me that math is important, but it's hard to understand sometimes, especially trigonometry.

She tells me that math was “somewhat” important in her life, that she has had many different jobs, including legal secretary, newspaper editor and secretary, and grocery store employee. After *Smokey's Grandma* finishes reminiscing about all the jobs she has had in her life, she changes her “somewhat” to a “yes.” *Smokey's Grandma* says she would have taken math classes in school even if they were not required because “I wanted to get smart.” She says that she had good teachers and that she took algebra and geometry, and that children today should also be required to take at least algebra and geometry as well. However, she doesn't particularly consider herself successful at solving math problems. She said, “I don't grasp the meaning and the reason why pi equals such and such.” I supply the “3.14” and she says, “Yeah, that's what I mean...such and such.”

“My math education has prepared me for life, although I haven't always used it. I always wanted to be a secretary, so typing was the thing. I don't always use math every day and if I do, then I like to do it with an adding machine,” *Smokey's Grandma* tells me. “I don't know if a class on math would be a good thing to offer to senior citizens; however, I would take a class on computers.”

I conclude my interview with *Smokey's Grandma*, and we chat for a few more minutes. She's not much for math, but she sure makes me smile; she reminds me of my own grandmother.

Narratives by Seth Knore

### Rose Man

As I step through the door, I see him. He stands behind the counter of his wife's small floral store. I see the scars of age all over his face. The scars tell me stories. Stories that make me wish to hear all of them. However, I do not have the time. What a shame! I've come to talk about math.

I introduce myself. I am with the research team from Ohio University. "Yes," he says, "I knew about you coming," he says as he introduces himself. He smiles and agrees to an interview. I begin with a few of the questions on my interview guide. He answers and then begins to take off with the interview. He has his own thoughts and he wants to share them.

"Math was tough on me. But, everything in life depends on math. My grandson is at the top of his class in math. But I never did well. I do think that you need math. Life seems to come along better with math. But, I guess that's the way life goes. People with an education seem to have the upper hand. The rest of us look up from the bottom."

As I wrap up our conversation, he looks at me and says something that astounds me. He says, "I miss it...math... now more than ever. Should've been forced to have it. I wish someone would have crammed it down my throat. I might have a good job and not be working a counter." The quote sums up the interview for me. Although he is not a highly educated man and his knowledge of math is limited, he believes that math skills are needed in his everyday life and he yearns to learn more.

### Combat Wounded

As I finish my dinner, I turn to the right of my barstool, and I notice an elderly gentleman. I sit down next to him, introduce myself, and ask if I can interview him. He

agrees to participate.

He begins the interview pronouncing his opinion of math: “Can’t get through school without it. Can’t get through life without it. It is the most important subject in school. I used math in the coal mines. I used it for coal cuts and how to set bolts in the timbers.” Did you enjoy taking math? I ask. “Yes, it was my favorite subject,” he says. I ask, “What about now; are you still good at solving math problems?” He puckers his lips together into a frown, looks down in disgust, and tells me, “No. Gettin’ too old. I’m forgettin’ my schoolin’. You gotta stay up with stuff like that.”

We both pause for a minute and then I continue, “What levels of math should be required for youth in school?” “All advanced math,” he says, “they need to know all they can on math; most jobs require it. I use it everyday, especially when I do work on the house.”

“Do you think math classes should be offered to retired citizens like yourself?” I ask. *Combat Wounded* looks at me for a long time and then tells me, “Yes, maybe, for a job, if you had to go back to work. Maybe that would be a good idea.”

I ask him the last two questions. “Do you think that your teachers did a good job explaining math?” Without missing a beat *Combat Wounded* says, “Yes. They put it out there to ya until you know’d what it was. They [teachers] stood there right over ya until ya could do it.”

As I ask *Combat Wounded* my final question, a feeling of sadness comes over me. I am enjoying talking with him so much that I do not want the conversation to end. “What was the highest level of math you were taught in school?” “In the ninth grade, they taught us multiplication, division, and such things,” he tells me. “Basic math?” I ask. “Yep, guess that’d be it...basic math,” he says.

I thank *Combat Wounded* and shake his hand. As soon as we finish, he receives the order of food for which he has been waiting.

### Mountain Moment

I drop off my fellow folknographers in the heart of Padua for another day of research. This day starts off differently from the previous two. We woke up to about six inches of snow that was not there the previous night. The motto for the day echoes from every local's lips: "There are only two seasons in Padua: Winter and August."

The team goes ahead to begin working for the day while I park the van. I go inside one of the local gas stations, the Mountain Mart, and approach the clerk. "Ma'am," I ask, "May I ask you a few questions about math?" "Sure," she says, "But, I don't know if you'll get much from me."

I ask her to describe her feelings about math. "Math is a very important subject to know and understand. I have a son who quit high school 'cause they flunked him in geometry," she says with a smile. I honestly don't know why that made her smile.

"Ma'am," I ask, "Did you enjoy taking math in school?" She looks at me and says, "Probably; until high school. Probably 'cause I quit payin' attention and got behind- that's when I lost interest. I should've paid more attention"

"What about solving math problems? Do you think you're good at that?" I ask. She says, "Somewhat. I can do basic math. Ya get into that high tech stuff; you can count me out. I just can't follow." She tells me what she thinks about the levels of math that should be taught to children. She says, "All that geometry stuff is useless unless you're gonna be an engineer or sumpin."

I go on to ask about the teachers that she had during school. She tells me that she

never went on to advanced math courses because of an intimidating teacher. She intrigues me the more I listen to her. She tells me about the teacher who picked up a desk while a student was in the desk—punishing the student for talking in class, nothing more. Because that teacher taught advanced math, she avoided those classes. “He was violent. Can’t figger why math makes people so hateful, can you?” I have no answer so I just shake my head “no.”

I thank her and leave her at the convenience store. I walk on down the street to try to find my fellow folknoographers. I wonder to myself, “Does math make some people mean?” This question is not on my interview guide.

### Math Games

In the fellowship hall of a church, I listen to people conversing with the other folknoographers about their perceptions of math. I see a young girl around the age of thirteen sitting at a table with her little brother. I sit down across the table from them and ask her if she would consent to do an interview. After a nod of consent from her parents, she says, “Sure, no problem.”

I ask her how she feels when she hears the word “math.” She rolls her eyes as she replies to me, “Lotta numbers.”

“Why do you say it like that?” I ask. She tells me that math can be hard at times, but she still likes math. She tells me she has had a hard time learning math because she has moved around a lot. I understand how moving around is hard on the learning process.

She tells me she knows that she will need math for her future. I see a look on her face, a look that may be telling me: *I gotta get out of here*. “Math is very important for a

job, and we just need to know it,” she says.

I ask if she feels successful at solving math problems. “Sometimes; if they’re not too difficult. Sometimes we get to use calculators in class, but if our teacher is cranky she makes us use our head. Most of the time I think her crankiness is caused by a boy who gets into trouble a lot. When he keeps asking her to if he can use a calculator, she gets mad.”

The girl tells me that she likes advanced math, but she is having trouble with algebra because she was not taught multiplication tables. “Around third or fourth grade I moved from Padua to someplace else. They were teaching the multiplication tables at Padua, but I moved at that time. When I went to the other school, they weren’t teaching multiplication. As they began to teach multiplication, I moved back to Padua where they were already past multiplication,” she says.

Her eyes light up when I ask her to tell me about her teachers. I feel as if she is carrying a load on her back and she is waiting to drop it. She says, “The wife of a high ranking official in the other school was my teacher. She taught me some easy ways to do math problems.” “Like math games?” I ask. “Like math games. However, here in Padua my teacher doesn’t do as good a job. She doesn’t use math games. The teacher has too much to do. She has to run a bunch of errands. So, she puts us into work groups to help each other. But when it is test time, she makes us line up against the wall to keep from helping each other. So we don’t get to test the same way we are learning. I don’t understand most of the stuff now.”

I end my conversation with the young woman by asking her if she thinks she will use math after she graduates. She looks at me and says, “Don’t know. I might go to college nearby. I’m not really sure where I want to go. I just wish they could make math

more fun.”

### Narratives by Melissa Meyers

#### Ms. Two Watches

At the fellowship hall this mid-afternoon on the second day of what is supposed to be spring, I’m scouting out a likely candidate to interview. In the food line I get chili and a can of pop. I spot a seat across from a grey-haired woman who appears to be in her 70’s. “Has someone spoken with you yet about math?” I ask placing my lunch across the table from her. “No, I haven’t talked to any of you yet. I was hoping someone would stop for a visit,” she says with a warm smile.

I want to know her personal history and ease into the interview, so I ask her to tell me about her life and where she is from. She tells me she grew up in Haroldstown, about fifteen miles down the road, and wants to make sure I know exactly where she’s talking about. Her use of flamboyant hand gestures amazes me after talking with here for only a few moments. I just can’t help but notice...this woman is wearing two large watches on her wrist. “She’s very expressive,” I think to myself.

“I used to be a production welder during WWII in Baltimore for Bethlehem Steel,” she tells me. Her intense and detailed stories of lying on scaffolding, welding the sides of huge Navy ships, and riveting steel planking astound me. She gives horrifying accounts of watching friends plummet to their deaths while welding these ships. She’s a champion.

“I know math is important! Even though I only went to the 9<sup>th</sup> grade I still have the important skills I need,” she affirms. “You know what? I was selected to go to the welding school in Baltimore. You had to have good math skills to pass that test!” She

obviously believes in the value and importance of math for everyday life. I continue, “So do you think what little math you had in school prepared you for life?” I ask. “Oh yes! Even though I only went to the 9<sup>th</sup> grade I still feel like I get by just fine. My checkbook always balances,” she exclaims proudly.

As we continue to talk about her family, her dogs, her church and Haroldstown, I feel like I really know this woman. Her life interests me and I want to know more. Unfortunately, our time is up and we must be on our way. “Thank you so much for speaking with me,” I tell her as I take her hand. “Oh honey, you’re welcome; you’ve been oh, so pleasant too. Remember...I wear two watches because I live life in double time!” I can still hear her laughter echoing in that fellowship hall.

#### Mr. President

A wonderfully warm feeling overcomes me as I walk in the door of the Padua Chamber of Commerce. So far, my interviews have not been up to par, but I know Dr. Lucas paved the way with the Chamber president and that this interview will be successful. I continue to feel enthusiasm about our project. I will not stop until I land a significant interview!

Right away I notice the eagerness this man has, not only to speak with us, but to learn from us as well. “Hello! I’ve been expecting you all. You’re with Dr. Lucas’ group from the college, right?” *Mr. President* says with a smile and a welcoming handshake. “Hi! Yes, we are,” I reply. *Mr. President* takes a seat and offers me one as well. Immediately he focuses all his attention on me and begins to crank off questions of his own. He wants to know about Dr. Lucas, about folkography, and about why we selected Padua for the study. After some rapid fire questions, he pauses and I take



advantage of this pause to begin my interview.

*Mr. President* listens quietly to my questions and carefully prepares his answers. His strong views and opinions shine through, especially when it comes to work ethic. *Mr. President* begins to express his feelings about math and tells me the extreme importance of it for everyday life. “It’s the most important thing for anybody to know—if you don’t have it, you aren’t equipped to do anything,” he states emphatically. Quickly the town, he claims, is becoming over-run by drug use, unemployment, and a shrinking population. As the president of the Chamber, he says, he sees the direction things are going. “Education solves so many woes,” he states seriously.

“Math is just so important to me; I couldn’t function without it here at the Chamber. I’m trying to decide to buy a CD [Certificate of Deposit] right now and the math skills I have are helping me. The idea about math classes for seniors sure isn’t a bad idea, either; I mean I know it couldn’t hurt.”

The people of the community are convinced the town is in decline, reports *Mr. President*. He has an optimistic outlook, nonetheless, and he tells me about plans for the future. “The Chamber is working on getting some ATV trails established, and that really has the potential to help us make a come-back. Without tourists we’ll never make it. Right now our Chamber depends on the fundraisers we do.” As I walk out the door of the Chamber and think about *Mr. President* I feel extremely positive and respectful. To many in Padua, the town seems to be dying. This is one man who keeps a positive outlook. He believes that math and math education are components that can help give this town a brighter future.

Cheetah

Wow! What a change of pace. The restaurant, hopping with people everywhere all the time, differs so much from the other one in town—this one is laid back and slow.

Immediately upon entering, I notice two ladies quietly chatting in the first booth. We greet each other and they agree to take the survey. Both ladies seem very attentive, and they are willing to answer math questions.

The first wears an eye-catching cheetah sweat suit. Her reddish brown fluffy hair completes the look. “Math is so important in life! Nothing moves without it,” she says. “Math was one of the few things I was good at in school, I was a straight A math student. I mean the basics aren’t gonna get you anywhere in this high-tech world. You have to have the upper level!”

“Do you think your teachers did a good job-teaching math in school?” I ask. “No I do not!” she responds. “It was mostly ‘do it this way or else’ when I was in school. One particular teacher I had, my cousin, in fact, told my father that if I didn’t do my math like I was supposed to I’d end up a whore,” *Cheetah* sadly recalls.

### Ranger Janet

The sweet smell of cedar fills the air in the ranger station. We’re in time to catch all the rangers coming out of a meeting. “Can I ask you a few questions about math?” I ask one of the younger female rangers. “Sure, I use math a good bit,” *Ranger Janet*, points out. Tell me about your math education, I prompt. “Well I work with the budget here at the Ranger Station, so it’s very important for me, but it really is at home too. I have had a little bit more algebra than most folk around here. College algebra was a major hurdle for me but it seemed like a good idea to do and helped me tremendously on an IQ test.”

*Ranger Janet* has fond memories of grade school teachers, and she has been the most receptive and appreciative of anyone I have interviewed thus far. “These folk in this area just need to take a fresh look at their resources and see what they really have here,” she says. “This place can be poppin’ with tourism if that’s what they want. They have to decide. They control their own destinies.”

I ask, “How would math play a part in that?” She looks at me for a moment and then says, “You have to use math as the basic method of projection. In other words, project or forecast what kind of loans you need for development; work up budgets; size up population and expected tourist influx. It all boils down to math, doesn’t it?”

#### Narratives by Nikki Fisher

##### Joe-Joe

On a street in Padua, my teammate and I encounter a man repairing damage from a recent tornado. We walk over to him and start a conversation. We introduce ourselves and ask if he will complete a survey. He looks tired but agrees. After he finishes, we ask if he would mind answering questions. He smiles and says “OK...long as it doesn’t take too long.”

I ask him how he feels about math. “I dunno how I feel. I guess I like it. I dropped out of high school, but until then it was ok.” I ask if he remembers anything about what he took in high school, or about his teachers. *Joe-Joe* says that he took math up until algebra. “I kinda liked it, I didn’t get the letters in it, but it was ok. You know...what do letters have to do with math? The teachers were good. They really didn’t bother me much, but it was ok.”

I ask him if he wished he continued on with school. “I do. My son is taking math

now, and it hurts that I cannot help him with his homework. I am thinking about getting my GED, but I dunno. I might.”

I ask him about his feelings towards the kind of math education his son is getting. *Joe-Joe* says that his son is very far ahead of where he was in the grade. “It amazes me. He knows all of these problems and methods. It amazes me.” I tell him, “I believe an education is an amazing adventure.” He says, “Children today are far more advanced than I remember being when I was a kid. It is amazing.”

### Mr. Postman

After today’s organizational meeting with Dr. Lucas, my partner and I choose to visit the local Dairy Queen. The manager knows who we are and welcomes us to sit and talk to his patrons. I walk over to a table facing the street and notice two older gentlemen sipping coffee. Erica and I walk over to them and introduce ourselves. The man to my right shyly smiles at me. I sit down across from *Mr. Postman* and begin my interview.

I ask *Mr. Postman* to describe his feeling about math. He looks off into the distance at the snow-covered fields and then replies. “I have to use math in my daily life. It’s required. I am concerned that if I don’t stay up with it, I might miss out on something really important that comes along.” I ask *Mr. Postman* if he uses math in his everyday life. “I use math a lot to do simple things, like count all my money and when I have bills to pay.” I laugh as he tells me about all the bills he has to pay for things like his “girly magazines.” He smiles mischievously, and then goes on to tell me about how he feels about math and his community. “Math is very important to the everyday lives of so many people working in this community although, they never think about it. I have to estimate distances, recognize numbering codes, the works.” I realize *Mr. Postman* has a point.

Many people doing simple jobs here really do not grasp how they use math everyday of their lives.

*Mr. Postman* starts to tell me about his grandchildren, which leads me to ask him about the math education he received in school. “I graduated close to a hundred years ago,” he comments jokingly. He retrieves a long, lost memory and tells me that he obtained a “pretty good” education. “The highest level of math I received consisted of multiplication and division. A certain teacher made us learn the times tables backwards and forwards. Really! I mean that. We had to learn ’em both ways.” I ask him if all his teachers made math easy and interesting or just the one. “Most of them did. They beat it into us, never leaving a topic until we understood it completely. One certain teacher, though, was not as patient. If you didn’t get it, she left you. You had to understand it quickly, or you were left in the dust. Boy...that sure makes you nervous. No one wants to be left behind.”

We talk some more about his high school days, and I let him reminisce. I ask him if he ever used math in his many careers. “I used it a lot in all of my jobs. When I worked on fenders and auto body repair, I used math a lot to get the measurements of the metal correct. Depth, sizes, everything math. When I became a postman, I used it a lot in counting change and the weight and rate of packages being shipped.”

I bring the interview to a close by asking *Mr. Postman* if offering classes for retired adults like him in his community would be a good idea or not. He looks me straight in the eye and replies, “Yes, I feel that classes would be a good idea, except you would not get anyone to join. People who are retired do not feel the need to study math anymore. They are not in their prime anymore and do not need to know how to solve big problems. They just want to fish.”

### Ms. Multi-Cultural

The pungent smell of ramps hangs heavily in the air of the restaurant as I munch a rich, delicious brownie. My gaze wanders over towards a woman sitting at the table across from me. She looks to be around thirty and has the poise of a dancer. I decide that she would make an interesting interviewee and walk over to join her.

I introduce myself and she does the same. She looks at my clipboard and asks me where I am from. I tell her that I am from Ohio University, and get ready to explain to her where Ironton is located. She smiles and replies that she knows exactly where Ohio University is. In surprise, I ask how, and she explains that she was born and raised nearby. I ask how she came to live in Padua. She tells me that after she got married, her husband suggested they move here. *Mrs. Multi-Cultural* tells me that she swore never to live anywhere else, but once she saw this place, it felt like home. She has lived in Padua ever since.

I ask permission to ask her a few questions about her perceptions concerning math and math education, and she tells me, "Sure, fire away!" I ask her to describe her feeling about math. *Mrs. Multi-Cultural* replies that she used to be, "bored with math, but now I am more intrigued with it. I currently teach English and German, but the more I think about it, the more I want to get certified to teach math as well." I ask her how she became interested in math, and she tells me, "I got started working out logic problems and I loved it. I can't believe I have passed all these years without realizing how intriguing math really is."

I ask about the math she took while in school. *Mrs. Multi-Cultural* says, "While in high school I took calculus and trigonometry, but I can barely remember any of it. I just lost it over time. I didn't use it, and the only things I can remember from those classes are

*sine* and *cosine*. Not a lot at all.”

I probe to see if she thought the teachers she had in school explained math to her adequately and if that had anything to do with the lack of memory of mathematical expressions. She gets this distant expression on her face as if she is remembering something before she tells me her answer. “It probably does. I don’t think that I got enough one-on-one attention to fully grasp some math. I think that is the problem that most children face today. That is why I want to go back and get certified in math. I feel that I can give the students the attention they deserve that I feel I did not receive. Each child seems to learn differently. Each child comes to us with a different set of problems and history. As teachers, even though it is difficult, we need to meet those needs head-on and give that child our best effort.”

I ask her what type of math she thinks children should have to take. “I think that children should take advanced math every year up until they graduate. It’s not required for them to take every year, like English, and I feel that is why they do not place as much importance on the subject.” I sit and think about that for a moment and realize that I feel that way also. All this talk about math has made me a believer!

I ask her, if math were not required in school, would she have taken it anyway. I expect her to say yes, but I am surprised. “No, I don’t think I would have. I hated that I didn’t understand a lot of the math concepts, and I could not wait for class to end. I felt inadequate. I felt like a failure. I hope to one day change that.”

I thank her for her time with me. I walk away from the table thinking how true her words are. Are people putting more importance on English and not math when the two are like the bread and butter of life? Her question makes me more hopeful that our study will help to bring better methods of teaching and learning to communities.

### Ms. Daycare

Bright rays of sunshine illuminate the cloudless, blue sky. The cool, crisp air of yesterday is replaced by warmer spring breezes. My colleague and I step out of the *Silver Bullet* (our OU van) and glance around our new environment. An old brick building guards the far entrance of a tiny bridge. We begin to walk over it, slipping on the ice that still hides beneath the snow. We notice a sign for the Padua Day Care Center and enter the building. The sounds of giggling children float through the halls. A woman tells us that the assistant director would love to talk to us about math.

We walk down the hall and meet *Ms. Daycare*. She guides us into a conference room littered with toys. “I love math,” she says in response to my first question. “We use it in everyday situations. I balance the checkbook, seeing if we have enough money to go to the store. I also use it to help my daughter with her homework. Recently, though, I have started taking math classes at the local college in Raphael. My daughter had to help me with my homework. She got a real big kick out of that.”

I ask her if she uses math in her everyday field as an assistant director of the daycare facility. “You bet I do! Yes. I feel that math is as important as reading. If you can’t add and subtract, you can’t get through everyday life. You have to be able to know how to judge money wisely. If not, then I could lose the agency money and possibly our jobs.”

We start to talk about her experiences in school. “I loved math in school. I took a lot of business math, though, and it seemed to be a lot easier to understand. I started to take basic algebra and geometry, but it did not seem to click. So I began to take more business math, and I liked it.”

I ask her if the teachers she took in school had any effects on her feelings about



math. “Yes they did. When I was in the harder classes, if you got it, the lesson I mean, then good... if not, well then you were just out of luck. Teachers had to teach so much, and they didn’t have time to go back and help the ones who were lost.” She pauses for a moment...thinking about something and then she continues, “We did do something neat, though. If you needed a math credit, you could go tutor children after school in math or English and get credit in classes. I did that for a while and liked it. Maybe that’s how I ended up here, do ya think?”

I asked *Ms. Daycare* about what math she thinks children today should take. “I think that algebra, geometry, and algebra 2 should be required. Trigonometry and other advanced classes should be offered but not required. Some people do not get math and do not wish to further that part of their education.”

I thank her for her time in letting me ask her questions about math and hand her a flyer about our town meeting. She smiles and says that she would love to come, but she can’t: “I have a math test to take for class.” We look at each other and laugh.

### Peanut Butter Engineer

The sun peeks out from behind the tall cherry trees of the Milan National Forest. We pull up in front of the ranger station and hop out to find our next set of prospects for the math survey and interviews. I spy a woman sitting in the lunch room, eating a peanut butter sandwich. *Peanut Butter Engineer* tells me that she likes all kinds of math. “I like geometry better. I love the shapes and how they interact with each other. I feel that I understand them better. Seems to me, geometry is all about relationships.”

*Peanut Butter Engineer* tells me that math is very important in her life. “I am currently a student, and I take math classes a lot. My last degree was in engineering, and

that required a boatload of math skills. Without math, I would be totally lost in my field. I am currently building a house, and math is so important in every step of the way that we measure twice and cut once. I know that sounds cheesy, but it is so very important. Math has taught me how to plan.”

She describes the math education she has received in school. “As an engineering major, I had to have a lot of calculus and trigonometry. Without those types of math, I would not have been able to understand my major.” I ask her if her teachers did a good job of explaining the math to her. She tells me, “In high school, they were not very patient with students who did not grasp the problems quickly. When I went to college, though, they did seem to take more time and go slower to fit people’s needs. It took time, but the end results were worth it. I felt that I learned more in college. That sounds backwards, but the college faculty just seems to care if I learned—not if I passed a proficiency test.”

I ask her if math was not required in school, would she have taken more or none at all. *Peanut Butter Engineer* said that she would have taken math anyway. “I was a sucker for math in school. I just loved math as a child in school. I felt that math was something I could relate to. People say English and reading are the easier subjects in school, but to me it was math.” As I write down her answers I think how differently she views math compared with others I have interviewed.

A cell phone rings, playing the Mickey Mouse Theme, and she tells me she has to go. She picks up her bag and starts to head for the door, then stops, looks back at me, and says, “Don’t ever give up on your dreams. It may seem hard or impossible at the time, but it will work out. If it is meant to be it will.”

## Pink Panther

Thursday morning greets me. I stumble out of the bed and reach to open the door to our porch. To my surprise instead of a cold blast of mountain air like I received yesterday, I get a warm spring wind. I can't believe that the last full day of our journey brings such sweet weather. Like they say here, "Padua has two seasons...winter and August."

We all stumble into the Silver Bullet (our van) and set off for our trip to town. We go run our errands and say our goodbyes to this town. Feeling hunger creeping upon us, we stop at the family eatery to grab a bite. A girl in pink pants walks over to us and asks what our study is about. I ask her if she would mind me asking her a couple of questions about math. She agrees.

I ask her about her feelings towards math. "It was complicated in college. I had a bunch of hard classes, but I made it through." I ask her if the teachers helped or hindered her in their teaching. "They didn't explain math very well or in a scientific way. When I started college, they helped me to understand logic. Math makes sense to me now because I see the reasons behind it. In high school they just made us learn the numbers. There were never any reasons, relationships, or applications given. The teachers in college were more educated and ready to help me learn the harder math logistics."

I question *Pink Panther* if math wasn't required to take would she have taken it in school. "Yes I would. It helped me prepare for college." I talk to her and ask if she feels that more math skills would better her life in anyway. "Yes it can. It might provide more job opportunities for me, not just here, but in places like the government. I want to eventually work there one day. I would like to work in a bigger city elsewhere in this state." I suggest that she could also bring the jobs here to her hometown. She smiles and

says she would if she could.

Her ramps and all the fixings arrive, and she gets up to leave. I thank her for her time and wish her luck with the ramps. I watch *Pink Panther* leave, and realize how important young people like her are to this community. If only there were some way for them to return here and bring jobs and job security back to this place. The town needs her as much as she needs the town.

### Quilting Bea

Our church service has ended and we are now entering the fellowship hall. Instantly the aroma of chili beckons my hungry stomach. I glance around the room, and I am greeted by many sweet and caring people.

I fill my bowl with chili and walk over to sit at a table with a couple of elderly church members. Smiles welcome me, and I immediately feel at home. Over near the end of the table, an elderly woman sits and looks over at me. I smile at her and inquire if she would mind my asking her a few questions about math. She tells me, “No, I don’t mind at all.” I walk over to join her. She reminds me of my Nana, who has long since passed away. I feel as though I can easily talk to her.

I tell her my name and she tells me hers. With the introductions out of the way, I ask *Quilting Bea* the first question: her feelings about math. She tells me, “I am not very good at it, but that I do use it some. In my quilting it is important to know some basic math. You have to measure and plan dimensions and pieces. It’s a lot like life...putting all the pieces together.” I smile and agree, telling her that I also love to sew. Another smile appears, and I can see that she thinks this is sweet.

I ask how important math is in her life. She says, “The only math I use is in my

quilting. But, I will say, math used to be very important in my career. As a nurse, I had to understand how to figure out dosages of medication to give to my patients. If I would mess up, it could potentially injure, if not kill, a patient. Although math was required in my past career, the education I received in school did not do a good job of preparing me for nursing. I knew how to do basic addition and subtraction, but some dosages required more math knowledge than I had obtained in school. I had to spend some long hours in the lamplight working on that dosage chart.”

I ask her about the math education she received in school. *Quilting Bea* replies, “When I went to school the highest math class one had to take only required algebra and geometry. Those two math classes were not even enough to help me out in my nursing career. I had to go take additional classes to help me with the dosage equations and all that those required.”

I ask if the teachers she had in school did an adequate job explaining math to her, and she replies, “No. Like I said before ... those teachers were in a big hurry. We didn’t learn what we needed. If you were a person who understood math quickly, you were ok; if not you were stuck.” She laughs and says, “I was one of those people who needed more instruction before I could grasp the idea. I guess I was stuck!”

*Quilting Bea* and I talk some more, and I ask her if she believes that today’s youth should be required to take math classes in school. She looks at the young people a few tables in the back and replies, “Yes, those darlin’s need math. If the children want to go to college, they need to be able to do all sorts of math. I wish that I had been able to get more math education.”

Finally, I ask *Quilting Bea* if she believes community math classes for retired citizens would be a good idea for Padua. She gives her grandmotherly laugh again and

replies, “Well, yes, I guess so. I believe that math classes would help keep the mind in motion.” I smile and agree with her. Yet, I believe that her mind is in full motion now!

### Padua High Focus Group

Walking up the stairs of the two-story brick building, visions of my high school days start flying back. I remember walking up similar stairs to a red brick building a couple of years ago. It seems like forever. I realize how much I miss my old high school and my friends.

The focus group is in a current events classroom. The teacher there greets us with open arms, and we introduce ourselves to the class. They seem to be semi-interested in us, and we get on with the show. We start to pass our surveys to the class of 14 high school students, sophomores through seniors.

The surveys “help to provide a benchmark,” says Dr. Lucas. It seems that the survey activity helps us start the interviews off more easily. The students sit quietly and fill out the forms as we walk about the classroom. When they finish, we ask them about math.

A lot of the students’ feel that math is a very important subject. Most of them feel that math will get you places in life. “Without math, we will all be working at the Foodland.” A bunch of “yeah’s” reply, and I get a feel of life in Padua. We ask them if the teachers have anything to do with their feelings.

One teacher, they claim, did a lot to sway their feelings. The teacher reportedly told them, “I am only here to get a paycheck and a red sports car, and all you all will do is work at McDonald’s anyway.” It’s a wild remark, considering that Padua does not *have* a McDonald’s! I cannot believe that a teacher would say that to students, but they insist

that is what was said repeatedly. They tell us they are willing to learn.

We ask if they will go to college. The majority say they will, but a couple of students say no. They want to get a job and start working right after graduation. The ones who want to go to college tell us that they will never come back to Padua. “There is nothing for us here. If we want to get a job and a home, we have to move. It’s sad. There’s no way we are staying here. There’s nothing for us here.” The feelings of doubt, despair and sadness in this room are intense.

### The Cold Weather Cook

After spending a long day in the spring snow fields of Padua, my teammate and I decide to go visit one of the restaurants. We drive up to a one-story building and get out of our van to enter the dimly lit establishment. Over behind the counter stands a high-school girl waiting on costumers. We walk over to her and ask if we could ask her a few questions about math. She agrees, and my colleague takes the interview with her.

I walk to the back of the restaurant and sit in a booth facing a jukebox. Country music fills the air as I take in all the images this place has to offer. A few minutes later, Erica joins me. We talk for a while about the restaurant, and then the cashier joins us. She tells me that the cook is also here if I would like to interview her as well. I agree, and we are joined by a woman about 20 years old. Her eyes seem weary, and I sense a woman who has lost her zest for life.

I begin to ask *The Cold Weather Cook* her feeling about math. “I hate math. As a cook I do a lot of it, and I don’t like it. It hurts my head to always have to figure this and that out.”

I ask her if math is important to her life, trying to get her to tell me more about her

career. “Math is important to me. It helps me figure out how much money I will make on my paychecks. I need to know how much they owe me!” She smiles at me, and I sense she is lost inside of herself.

I ask *The Cold Weather Cook* if she enjoyed math in school. She gets that lost look in her eyes again. “While I was in school, I liked it. I had to drop out when I was in eighth grade to have my first child. I just didn’t have much interest in school after that. I guess I could’ve gone back or get my GED, but I just didn’t have the heart.”

My heart hurts for this woman, and I feel her pain as if it were my own. I go to college. I have great professors. I wish these voices could be heard throughout the US.

We continue our interview, and I can tell that she is saddened by the course of her life. I ask her one final question and wait for the answer. I ask if she would like to develop more math knowledge. “Right now I am trying to do just that. I am working on getting my GED so that I can tell my babies that their momma finished school. I want them to have someone to look up to when they need it. I hope to even take classes at the community college soon. I just want a factory or desk job to bring in some money. We really need it.” I smile at her and tell her that with her determination, she will achieve it. She looks at me, and I see her rising hopes.

Dr. Lucas arrives shortly afterwards, and my team leaves this little shop. I still feel the hurt and hope in my heart for *The Cold Weather Cook* and all of the other people in this town like her. I wish that someday, life will work out for this hopeful woman, and she will know true happiness.

### Wallpaper Wanda

The sun glistens over the white snow as I awake. The temperature is far away



from the nice spring day we arrived in yesterday. I feel as though my body has been through a dozen changes and pull the covers over my head. I wish I were in Florida. How did I let Dr. Lucas talk me into going to here on my spring break? I wonder if he's a sorcerer.

My teammate and I dig through all our clothes trying to find something to fight the chilly weather. I curse myself for not thinking about bringing my big heavy sweaters. Winter in spring is not my idea of fun. I hope that is not a bad omen for today...or for the week!

Orders are being thrown out today in our morning meeting, as my partner and I await ours. We hope to go somewhere warm and comforting. Dairy Queen gets mentioned and we both automatically raise our hands. We win it and are off.

After entering and talking to a couple patrons, we notice a couple of women sitting over by the window. We walk over to them and introduce ourselves. While we are talking to them, the manager of the Dairy Queen walks over to us. He tells us he is working for the local paper and wants to take our pictures. We are shocked and agree. It's wild being interviewed while you are interviewing another person. It's a day of firsts.

I start to talk to *Wallpaper Wanda* about her feelings about math. "I don't really like math. It's boring and hard." I ask her if her feelings are motivated by the education she received in school. "I think so. My teachers were really different. They never took the time to help those of us who were lost. I was a slow learner and never fully grasped anything. They constantly left me in the dust." I tell her that I hear this as a constant theme from people. She says that in Padua, it's always been like this, at least when she was in school.

We talk some more about math, and I ask her how she feels about giving free

math sessions to seniors. “I think it might work. I don’t know how others feel, but it seems good. Maybe it might make some of them feel better about their selves. Who knows?” We finish the conversation, and we both walk away.

I think about what she has said. Teachers may be educators, but they have to be facilitators too. They need to think about all of their students and how they work. Maybe they need to slow down and work with the kids, not against them.

### Narratives by Holly Harrison

#### Madame Butterfly

I walk into a quaint store located in downtown Padua. Numerous hand-sewn napkins, aprons, and dolls decorate the walls. Handmade goodies such as scented soaps and candles fill the humble store with various aromas. An older lady sits in the back, working on trinkets and needlework. On her shirt collar rests a beautiful butterfly broach, decorated with a multitude of colors. I compliment her on the beautiful pin that adorns her blouse. She then explains to me that she collects butterfly items. From that moment on, I will always remember her as *Madame Butterfly*. I ask her if she would mind being interviewed. She smiles and eagerly agrees to share her opinions concerning math and math education in Padua.

*Madame Butterfly* explains that math is “the most important thing we use. Most people use math everyday without even realizing it, such as counting change at the store, adding up grocery prices, and balancing checkbooks. We all need math and more of it!”

*Madame Butterfly* holds that without math, she would have never made it through high school and college. She continues, “At that time, some advanced courses such as calculus and trigonometry were not offered to students. Nevertheless, I did the best I

could with geometry and algebra. I earned a college degree at a nearby school. Now that's an accomplishment I am very proud of. I took math, too!"

Although well educated, she explains that she didn't enjoy taking math courses while in school. Mathematics was not *Madame Butterfly's* favorite subject. She explains, "For me, math was more difficult than other subjects, such as English." She describes her uses of mathematics: "I use math in cooking recipes, using patterns, measuring material, and using sewing machines." Although she often uses math, she feels that algebra should be the highest level required, and that geometry serves its purpose mainly for engineers.

It is also her opinion that mathematics classes for senior citizens would probably not be well received. "Math classes would be more useful for younger adults who have not finished school," *Madame Butterfly* suggests. "They need additional reading and writing courses, too. That would be more useful than mathematical classes in the Padua area." Nevertheless, she explains, "Many people who lack those skills may feel too embarrassed to take advantage of that opportunity. I don't think they'd attend the classes."

*Madame Butterfly* finishes the interview by telling her story about great teachers all through her schooling. I can see in her eyes that she feels very blessed that there were people helping her along the way. I thank her very much for the interview, take a snapshot, and continue on my way.

### Retired Teacher

We enter this church on Sunday morning. We don't know anyone, but the congregation welcomes us with open arms. The church is beautiful, with sage green

siding and gorgeous stained-glass windows. Inside, it has a rustic essence with its wooden pews and wooden crosses. The ceremony is fascinating. Together we sing hymns, simultaneously voice prayers, and listen to the sermon about forgiveness and acceptance.

After the service, members of the congregation invite us to eat with them on the first floor of the building. I walk down the stairs where intense aromas of amazing dishes fill my nose. It reminds me of my home church get-togethers. I walk around for a minute, chit-chatting with many of the folk. They are all very warm and friendly, and I could see stories in their eyes. I also listen to others' conversations, hoping to pick up on something useful. I do. I hear an older gentleman asking a lady about her daughter's whereabouts. She answers that her daughter is now living in Texas. This makes me wonder how the man knew her daughter, so I ask him.

He explains that he was a teacher at the local high school for many, many years and even taught some college classes. With sorrow in his eyes, he describes his students. "When I walk down the street, I do not know anybody. All my students moved away from here to find jobs." His students, he says, have moved all over the place, settling in North Carolina, Florida, Texas, but not Padua; not even in this state.

He says that most of the original Padua inhabitants have already moved away in search of prosperity. Those who still live in Padua are retirees or small business owners. He explains that ever since the coal mines closed, there are no industries in Padua. Timber used to be a large export, but that too has vanished for the most part. He describes a town that was once alive with possibilities: great jobs and a great economy. He says that it isn't that way anymore. I wait for him to speak of some sense of hopefulness or possibilities, but I hear none. He sits quietly and it seems to me that the

faces of hundreds of prior students are passing before his eyes. I leave him with his reflections.

### Kind Social Studies Teacher

A friendly gentleman walks into the small diner with his young son. He is wearing a tan hat and has laugh lines that ease my apprehension. He sits down at the bar, his son at his side, and places their orders. The same waitress who takes care of our needs every day whispers to me that this gentleman is a teacher.

I ease into the stool beside him at the bar. “What do you teach?” I inquire. “How did you know I was a teacher?” is his response. “Well, the waitress just told me,” I admit. He then catches the waitress’s eye, signaling a teasing reprimand toward her. “Well,” he continued, “I am a Social Studies and Economics teacher.” His words suggest a very kind manner, and he seems interested in being interviewed.

He describes math as a subject that is “needed.” “Everything,” he holds, “revolves around mathematics.” He elaborates: “I use math for tasks such as measuring furniture and balancing my checking account. I use math to calculate the grades for my students.” He continues by saying, “I can’t stress its importance enough, not only in this state, but everywhere.”

I inquire whether he enjoyed taking math in school. He says, “Yes and no. I grew up in a service station environment.” I am unsure about what he means, so I probe a little to gain insight. He says his parents owned a gas station. He explains that most of the time, he was concerned with cars, not mathematics.

He feels unsuccessful at solving math problems. As a teacher at the local Padua High School, he can easily “call on other teachers” to help with math. Nevertheless, he

holds that if he had a choice in school, he still would have taken math classes because it is necessary in everyday life. “For example,” he explains, “when I teach Economics, I use pie charts and line graphs. That takes math skills to figure them out and to explain them to the students. I also motivate students by helping them figure their wages.”

He feels that if he had gained additional math skills, he would have probably gone on to pursue a master’s degree in engineering instead of secondary education. Although he seems happy enough to teach at the local high school, his eyes glint—perhaps with regret at *what could have been*.

*Kind Social Studies Teacher* also sees a need for mathematics during every level of school, grades 1 through 12. He claims that students should be pushed as high as possible to achieve as much as possible. He explains that high school students are only required to take three classes of mathematics in order to graduate. It should, he says, be four classes. I ask him if classes such as trigonometry and calculus should be required. He answers, “Absolutely! Trig and calculus are just the beginning. There are a limited number of jobs in the area, so our students must go on to college in order to succeed. They have to look ahead.”

He maintains that all of his teachers taught very well, except for one. He describes this teacher as, “Someone who allowed students to be left behind, including me. This teacher would say motivating statements such as ‘hang in there’ or ‘stay with it,’ but he did little to really help us continue forward. I did hang in there; I went to tutoring four nights a week. At that time the high school did not offer outside tutoring, so I had to seek help outside the system. And although I ‘stayed with it,’ I still received an *F*. I had to swallow that. Teachers need to sense where their students are and throw them a life-line. We have to care.”

As a student, he describes taking an array of math courses: “I took Algebra 1 and Algebra 2, Geometry, and even a something called ‘new math.’” (Later Dr. Lucas explained what this meant, but at the time, I was clueless). I inquire a bit about this “new math,” but he is unable to give me a clear description. He wasn’t, it seems, impressed.

I thank the *Kind Social Studies Teacher* for the interview. I cast a smile toward his son. “He talks too much,” the young boy teases about his father. “That’s okay,” is my reply, “that’s exactly what we are looking for in this study.”

#### Gentleman Accountant

During the lunch following church, I sit down next to an older gentleman. He seems very friendly, so I ask him if I could do an interview. He inquires, “Can you do one with an 85-year-old? Or am I too old?” With a warm smile on his face, I can tell he’s joking, but still I reassure him that he is a perfect candidate to give me some insight. He agrees to chat.

*Gentleman Accountant* explains, “Math was always my favorite subject in school. While in school, teachers would not call on me in class because I always had my hand up, ready to express my thoughts about the problem.” This gentleman describes math as “the only subject that came easily to me.” I feel that math is very important in everyday life because every job requires some level of mathematics.

“Even as a retiree, I use math every day,” he tells me. “Let me tell you a story about my use of math. I went into the local food store to purchase an item. I had a discount for 5% off. My item was only a dollar, but that clerk had to take out her calculator to figure the amount! I explained to the clerk that it was five cents off. She

asked me, 'How did you know that?' I explained to her that 5% of 100 pennies is five pennies. I went on my way disgusted by what I had experienced at the store. We need to teach people more math!"

He says, "Every generation seems to rely on calculators more and more." He reminisces for a moment, focusing on how his mother could solve math problems in her head faster than he could with a pad and pencil. He feels that this phenomenon is related to the different math education approaches throughout the years. According to him, calculators inhibit mathematic abilities. "They oughta make'em do it [solve math problems] in their heads!" he exclaims.

He also attributes variations in mathematic abilities to the teachers. He feels that modern-day teachers of Padua aren't very dedicated to teaching. "Teachers in the past worked all day long, came home and graded papers, and they went back to work on the next day with assignments and ideas for making kids learn. Teachers went to every school function without compensation, and when they finally got to bed at a very late hour, they just got back up to do the same routine early the next day. Dedication...that's what we need. Teachers with dedication!"

He recites out loud a math problem that one of his teachers had taught him. As a student, he was taught that he could measure the height of a tree by comparing it to a smaller tree beside it. He contends that interesting facts like these stick with people, and that teachers today do not apply themselves nearly as much as they did in the past. He asserts that "most of the younger teachers work merely for the pay, not for the passion of teaching."

I ask him what level of math should be required for students throughout school. He feels that there are few uses for very high levels of math, such as trigonometry. He



suggests, however, that “geometry and algebra are important because we use them around the house and in everyday situations.”

*Gentleman Accountant* asserts that he has studied math his whole life. Although he is now retired, he explains that as an accountant and payroll manager he took many math classes throughout adulthood. He reports that he enjoyed all of these classes. Nevertheless, he feels uncertain that offering mathematics classes to the senior citizens of Padua is a good idea. “Older adults would not feel the need to expand their mathematic abilities. Now a computer class would be very useful.” We go on to talk of computers, family, and church, never getting back to the topic of math. But I think he probably had his say.

#### Junior High Focus Group: The Children Speak

Two fellow folkographers and I walk into the junior high school. Beautiful artwork decorates the walls, along with other pictures and announcements. We walk into a classroom of children, who are expecting us for this focus group. The teacher does not seem to mind. She kindly offers up control of her class, an energetic group of over twenty children with honest and ready remarks twinkling in their little eyes. I remember being one of those children. I was their age not too many years ago.

We introduce our project and ourselves. We explain that we have some surveys to fill out and that we also need them to answer some questions for us. They squirm with excitement, realizing that they are allowed to speak their opinions instead of doing the routine schoolwork to which they have become so accustomed.

When they hear the word “math,” a volcano of opinions erupts. They assert that math is “bad,” that “it sucks,” and that it is “confusing and tedious.” They say that the

only time they like to think about math is when they are dealing with money. They offer examples of times for using math: shopping, figuring scores, or tipping a waitress. Some students feel that math isn't important on a daily basis at all. Many cannot pick out or think of particular instances when they use it.

They insist that math will be important in the future when seeking job opportunities or continuing on to college. When it comes to basic mathematics, such as adding, subtracting, multiplying, or dividing, they are fairly confident in their skills. They complain that the more advanced, complicated math is difficult for them. They feel that most of the math they use will be that which they have learned in early elementary school. They do not seem to accept any need for other types of mathematics. Overall they explain that the importance of advanced math depends on if you go to college or the type of job you get. Nevertheless, one student says, "At least it makes you smarter."

We then ask the eager students if they would still take math courses if it were not required. The group is split down the middle on that decision. Many students say "no," asserting their definite dislike for the subject. Nevertheless, many students say "yes," explaining that you must have the skill in order to get a job. We inquire if they will seek employment in the area or if they plan on moving away. The majority voice their intentions to leave, saying that there is nothing to do in Padua. It seems that even the youngest inhabitants grasp the depressive economic status that is affecting them.

We then ask the students if their teachers do a good job explaining math. They giggle for a moment, with the idea of being *allowed* to criticize their teachers. They surprise us with their maturity. They explain that a lot of times, teachers will not repeat a lesson. When they ask questions, they are told, "You should have been listening." Another problem they mention is that teachers often use "big words that we do not

understand. They should be teaching us, not embarrassing us.”

We ask the students for closing comments concerning math and math education in their area. Some reiterate that math is hard. Others reinforce their belief that “you have to have it.” One student says that “math is cool” and another explains, “If you pay attention, it’s not that hard.” One student illustrates his concern by saying, “I don’t want to grow up and be stupid.” Another student says, “You need math unless you want to grow up and be a professional couch potato.”

### The Gasman

I am sitting in a small diner located inside a gas station for nearly an hour when a man, wearing a bright red hat and a blue jacket with a local gas company name on it, walks into the place. His face is hidden by a salt and pepper colored beard, but he has a friendly smile. I approach him, introduce myself, and explain my mission. He readily agrees to an interview and does not seem to be in a hurry to be anywhere particular.

*Gasman* explains that math is the best subject of all. He uses mathematics everyday at work to read meters. He enjoyed taking math classes somewhat. I do a little further probing, and discover that one reason he doesn’t regret taking those classes is because *Gasman* met *Mrs. Gasman* in one of his math courses when he was seventeen years old. “We’ve been happily married ever since.”

He chats awhile about his daughter and son. *Gasman* modestly boasts that his daughter had received a double major in accounting in only three years and still lives and works in Padua. He explains that when he tries to help his son with math, he (*Gasman*) can find the answer.

Overall, *Gasman* feels pretty confident at solving math problems. He explains

that he only took what was required in school, the basics and commercial math. Algebra and geometry, *Gasman* explains, were not required so he did not take them. He describes all of his teachers as compassionate. He feels that if had taken more advanced mathematics, he could have worked at a better job sooner and retired earlier. Nevertheless, *Gasman* is very content with his current job. He reinforces the same concern that many other Padua residents have: “We need to shore up our town. We’re losing our businesses, our tax base and our kids. You don’t need a lot of math to figure that one out.”

### Tall Cap

We receive a tip that a local hardware store in Padua would be a great place to find interviews. At the store, some people we know offer suggestions as to others who are interested, and we take some surveys. An older gentleman walks in. He is wearing an unusually tall baseball cap with a pair of sunglasses atop the brim. He seems very nice, so I ask *Tall Cap* if he has time to be interviewed. .

*Tall Cap* explains that he “loves math” and always has. He feels that one possible reason for this passion is that he always aspired to be an accountant. With a sign of regret in his eye, he sadly explains that he worked for the coal mines instead. “I never had the opportunity to be an accountant. I had to just keep digging coal. All my life...digging coal.” Nevertheless, he says that “working in the mines also required quite a bit of mathematical skills.” He maintains that “even now as a retiree, I use math all of the time: to balance my checkbook, to count change, to purchase gasoline, and to buy lunch.” According to *Tall Cap*, “Once you get out of bed, you have to start figuring.”

As a younger man, *Tall Cap* explains, he took all the basic mathematics courses,

along with algebra and trigonometry. He says, “I was very good at solving math problems in school, but I cannot solve my grandchild’s math problems today. I did not use the same techniques back then as they do now.” I ask him about the levels that he feels should be required of children in school. He answers: “Schools should offer aptitude tests to their students, and in accordance to those tests, require the highest level courses possible compared to their abilities. Everyone should attempt higher levels of math ... the highest they can go.”

I ask *Tall Cap* about offering math classes to senior citizens, and he stops to think for a moment before answering. Then he says, “Most senior citizens would not feel the need to take additional courses because they went to school long enough. What about offering additional courses to younger adults in the Padua area?”

He closes with these thoughts: “I had good teachers who thoroughly explained mathematics to me as a child. I give the credit to them. Sure wish we had those kinds of teachers for our grandkids today.”

### Narratives by Nicky Sprouse

#### River Jim

As I begin the interview with *Jim*, I notice that he seems anxious. I ask him his feelings about the word *math*. He tells me that he believes math plays an important part in his everyday life. “I love math and math games.” When I ask how math would help him in the future, he simply answers, “It will help me get a job.”

He continues, telling me that if math were not required he would still take the classes. This student views himself as successful at problem solving but does not look forward to taking advanced math because it looks too hard. I further question him about

staying in Padua after he graduates; his answer is a polite, “No.”

### River Reba

As I begin to interview this elementary school student, I notice that *Reba* just can't wait to get started. I begin my questioning by asking how she feels about math. Her answer comes back quickly, “I like math. I want to be a lawyer. I will have to know a lot of math to be successful and get through college.” I continue by asking her feelings about advanced math. She answers, “It is kind of hard, but with some help I can do ok.”

*Reba* continues the interview by telling me, “I think my teachers are helpful, but I have to do most of the work myself. The teachers seem to think we need to learn this on our own. Like we need to solve the problems on our own without their help. That's why I want to be a lawyer...I want to help people get what they need.”

### The Volunteer

After some others reject my requests for an interview, I meet a young lady who volunteers for an interview. When I ask her to describe her feelings about math, she says, “I like it. I had calculus. I didn't like calculus as well as algebra. I like to learn how to solve the problems. They give you the answers in the book. That's not the point. The secret is learning how to solve the problem to get the right answers. That's when you know you've done something.”

I then ask if she feels that math is important for her life. She says, “Yes. I calculate percentages for kids at work and home. I balance a checkbook for my mom. I pay bills for my mom. Math solves problems in life.”

I continue: Did you enjoy taking math in school? She says, “Yes, I like algebra, and I am pretty successful at answering most problems depending on what they are. Math

is like a puzzle. You have to hunt for the answer.”

As the interview progresses, I ask her if math were not required in school would she still have taken it? She answers, “Yes, it is useful for all of the major tests, and I use it every day where I work.” I ask her to describe how her life might be different if she had additional math skills. She says, “I don’t think it would be.” When asked to describe what levels of math she felt should be required for youth in school, she says, “They should require kids to take math up through calculus. Math in college is not like math in high school and you need all you can get to make it.”

### G.I. Joe

I begin to interview *G.I. Joe* at the country club. I sit at a little table that resembles a small table in a restaurant. The chair I am sitting in is like a chair a child would sit in. I ask *G.I. Joe* to fill out a survey. He completes the survey and then he asks if that is all.

“Well, not really,” I say. “Could you give me the time for an interview as well?” He agrees to do so. I request an explanation about his feelings about math. He says, “Math is essential. Math builds critical thinking skills if you have spatial intelligence. A person’s math skills are indicative of intelligence. The more you have the better you can adapt to situations. Most people don’t think they will ever use math. I never thought I would until Vietnam. I learned trigonometry from hands-on experience.”

I ask him if math is important for his life. He says, “Sure, in today’s business world, especially, retail machines are setup to calculate daily activities. If you don’t have math skills in your head you can make a big mistake. Math skills are important.”

“Did you enjoy taking math in school?” I ask. He says “No, I was hyperactive before they knew what it was. I would rather look at girls or look out the window. I was a

wild one and didn't listen."

"Do you consider yourself successful at solving math problems?" He says, "Yes, I did surveying years ago. I am a retired Marine. I was in the Marines for twenty-two years. It was fun surveying in Vietnam. It was different from being assigned to combat. I believe in what we did there."

I ask him if math were not required in school, would he have taken math classes. He says, "No, I doubt it. I dropped out in the 11<sup>th</sup> grade, because I didn't have the home life structure that I needed. If you get the option, you take the easy road. I got a few Bachelors' degrees and I got half way through the Masters and said forget it. I just didn't have the will to go on."

I then ask him about college math. He answers, "I took science instead of math because the teachers were not very helpful in the math department. It all comes down to the teacher. If they have the knack, you'll get it."

### Narratives by Jae N. Jung

#### Warm Spring Day

The first impressions of Padua: "Deep feelings in a lush Valley." I am Korean. This is Appalachia. I am amazed.

Dr. Lucas has full energy already early this morning as he gathers the fourteen students together. We meet at 8:30 A.M. It's about 30 degrees outside, and although it is a little chilly, we have a bright, sunny day. Our folkographers gather one by one with big smiles, white teeth showing. It looks like everybody is ready to go deep into the Appalachian Mountains to explore and share in an adventure during this year's spring break. I have worked on these folkography projects two times before. This time our



project is about math and math perceptions in the area of Padua, here in Appalachia . We have been preparing for this project for the entire quarter under the leadership of Dr. David Lucas in our Communication Studies Field Research Methods class at Ohio University.

I feel a soft wind on my cheek and I stop to enjoy all of the early spring fresh fragrances moving through the deep, surrounding mountains here in Padua. I experience the mountains through the pane of the auto window as we move down the road. It takes several hours to get to these mountains from our campus. As we drive, the surrounding area and scenery amaze me. The mountains are not as steep like the Canadian or Colorado Rocky Mountains. I smell the freshness of early spring greenery, and I see a couple of hawks roaming around in the blue sky. I feel like I can hear the ancient people, the Native American people, chanting and walking down the steep paths in these Appalachian Mountains. Through my imagination, I see frontier people crossing these old mountains, searching for their new life. Along the drive, I read signs like Big Otter Road, Bear Run Road, and many other words or allusions to nature for the names of roads and places. We finally drive down a one-way road with winding curves and steep mountainous terrain. I don't know how these people get in and out during the snowy, cold wintertime. Someone shouts, "We are close now!" I am anxious.

Suddenly, I can hear loud water sounds. Now I can see the river running in the valley. It looks like a wide creek with white water cascading along the many rocks. The trees, the fast-running river water sounds, and the soft wind create a beautiful harmony. Beautiful nature sounds blend with clean water sounds and make strong musical expressions all of the time in this mysterious place. Driving into the deep mountains near Padua, I see the deep valley and the old town. The mountain smells of pine and cedar,

the white creek water sounds like a large rapids, and the panoramic view make this place very rich. The mountain air is clean and fresh, the water sound is clear and bright. I do not know the people here yet, though I like nature and good people. I am anxious to meet people here and want to listen to what they are saying. The population is a little over 3,000 in the region of Padua. Near the center of town, I see one lumber company. The sign mentions that the company is one hundred years old! Now, we see our motel right on the street. There are only twenty-seven rooms. It's a small, clean place and it looks like a big cabin, set above the clean creek area. They call this stream the PawPaw River. It brings people to this area for fishing. Trees are everywhere. Mountains surround me. It is a beautiful scene, like that of a beautiful, hand-painted picture.

We arrive at 2:00 P.M. As soon as we arrive at the motel, we busy ourselves unloading our luggage and setting up our fifteen computers in the writing lab. Now I am writing this, my first-day of impressions of Padua. I have to go out to see this area and meet people and explore. My first impression of this place can be summed up in one phrase: "I discover deep feelings in a lush valley."

#### Good and Evil Teachers in the PawPaw River Bottom

I wake early in the morning and I open the curtains to see the beautiful mountains and the PawPaw River streaming passed the hotel. I see snowflakes falling quietly. Yesterday brought a sunny, bright, warm spring temperature, but now it's a cold winter's day with freezing temperatures and snow in this deep valley. It looks like snow will fall all day today.

We begin our second day of field research in Padua starting at 9:00 a.m. Heading to the restaurant for our breakfast, I can see the town more clearly now, even in the gray

snow. They called this town, *The PawPaw River Bottom*. I can see the houses perilously perched at the base of the mountains along the river. There's not enough space to build all the houses at the base of the mountain, so gradually houses are situated on up the steep hillside. The narrow streets (and not many streets exist in this town) are very steep from the bottom to the high hill, up to the mountain. I see only one signal light in the middle of downtown. I feel like I am walking onto an old western movie set or stepping into a ghost town. This strange and weary feeling causes me to have a kind of sad and depressed mood. Yet, compared to a big city like New York or Los Angeles, this village offers a quaint charm! I am not fond of big cities, yet I do not know what to do in this kind of isolated place. I probably would run away from this kind of environment if I were a young person. Unexpected winter snows with gray skies and a blowing wind must add to this strange feeling pouring into my heart now.

The streets are almost empty. The stores look like antiques and seem very tiny. I can see the signs about ramps. I am noticing ramps are everywhere (they are similar to leeks or onions). I have never heard or known ramps before in my life. They are talking about how strong they smell. Actually, they say that they have a very curious taste. It must be a really terrible, horrible taste.

So far no one among the folkknographers wants to eat ramps. Some of our group say that ramps smell like dirty wet sneakers! I am wondering about this strong ramp smell. Do ramps make people run away or bring people to this town? Whatever the case, the citizens seem to be very proud of their ramps.

### Retiree

After breakfast at the restaurant, our folkknographers are going to church. I see one old man sitting alone and waiting for his food. As I greet him, he looks happy to respond

to me. I move close to him and ask if I can chat with him for awhile. He seems delighted.

He is trying to read the survey paper to fill it out, but it appears his eyesight is bad and he cannot read the letters. He looks like he's having some trouble. So, I ask if I can read the questions for him and soon I find out he is a retired teacher. He taught social studies and biology for twenty-seven years in the Padua area. As we converse, he speaks many intelligent thoughts. About math he says, "Math is a most important subject and it must be learned as a foundation...you must have basic math. You and I use math everyday in our lives; balancing of our checkbook, driving a car a certain distance and gauging the mileage... many things. You know..." he says. "Yes, math is my favorite subject. I had all straight A's." He smiles as he continues, "They [the students] need basic math, Algebra, Geometry... Business math too. To me, math is more important than English. Solving math problems uses the mind. So, solving math problems applies logic for solving any problems in life. Now days, many young people need this. They lack the skills of solving math problems." He is surely enjoying this talk and wants to talk more and more. I do not want to interrupt, even though I'd like to ask why he thinks math is more important than English. He mentions that he took two years of Algebra and Physics and most teachers are trying hard to teach their students and teach with excellence. This is my first interview today.

### New Teacher

In the church, after the morning worship, about twenty people from the congregation gather for our focus group. I can see most of them are senior age. They welcome us. They invite us to eat home-made chili and cornbread. It is a good time to meet a number of people, to sit down with them and listen to what they have to say about math and their life stories in this community. We thank them for the delicious, warm

lunch and for sharing our conversations. As a folknographer, we have to listen to their voices intensively and observe their culture with empathy. Lucas taught us all of this in the field research class before we came to Padua.

Now I have my second interview, with a young lady who will be teaching math in the local school. She looks very excited about teaching students soon. She loves math and says math is very important. It is her favorite subject.

“I had a real bad math teacher, though. I called him *evil*. He was a real mean teacher. No student liked him at all. He didn’t care at all for his students either.” I ask her, “How long did he teach?” She answers, “He taught for thirty years before he retired. He retired some time ago and is working now as a substitute teacher. He’s changed his attitude some. He is a little nicer now.” Beside her, a young man listens to her talking and strongly agrees with her assessment. After completing this second interview, I have a chance to talk with this young man.

#### Young Teacher

He is teaching English and Spanish in the local high school now. He says, “Math is a necessity, but I don’t like math. The basic math is important in our life.” I continue to ask our written questions, “Do you consider yourself successful at solving math problems?” When I ask this question, I wonder about the word *successful* and if he had the *evil* teacher too. He answers “Not particularly! But we all need the basics like algebra and geometry. You cannot make progress in your life without math skills.”

He then begins talking about the “evil” math teacher. He says, “He kicked me out of my class! He threw chalk, erasers—really! He was a real mean ...” —I think he remembered that we are in the church building here— “...well, he was just so mean. He treated us like we were dumb. Now, I think, he is changing.” I thought how important

the teacher's role is in the lives of students.

### Reflection: Awakening with Numbers

As usual, my eyes and ears are awake at 5:56AM. I do not know why I wake at this time every morning. Even though I am here in Padua on a research project, so far away from home, I do not have to get up this early today. Is it because my biological rhythm has been trained for so many, many years? I remember waking up in Korea as a little girl, far out in the country on the farm. I feel the same this morning.

I lie alone in this lodge room, wanting to go back to sleep, knowing I feel a strange sensation. I ask myself, "Why I am here, now?" This very early dawn in my half-awake state, I already start thinking about what will happen today.

I come here to listen and learn about Appalachian people's life, culture, and their way of thinking. We want to know about their concepts of math and numbers. I am in Padua for just a few days. I glance at the clock: 6:00 A.M. I must awaken and prepare for the day's adventures.

I throw back my window curtains, and discover the amazing power of nature. All the area is covered by pure white, thick blanket of snow.

Five or more inches of snow cover every inch of the ground. It is an unexpected, but beautiful natural panoramic scene spread out across the mountains, valleys and the river. I am breathless.

As if by some magical exercise, a fairy has cast a positive spell all across the land in the middle of March in this PawPaw River Valley. I am already wide awake and this beautiful nature scene calls me up and out of the room to experience the refreshing spring snow. I cannot wait to get outside and take in those bright, whitewashed mountains. The

streets, the sidewalks and the possibility of meeting with the towns people of Padua excite me also. I decide to get up and start the day.

Today is the third day of our project in which we are asking about math and math perceptions in these Appalachian people. These people are friendly, kind, and ready to talk. They have accepted me even though I am Asian. I am surprised but also glad. When I smile at them, they smile back!

The motel where we are staying for a few days lies in a deep valley. The PawPaw River's clear water rushes through, over and in between the many big and small rocks cast about in the river. This reminds me of the landscape in Korea where nature stands clean, fresh, and green. The river makes a natural symphony of sound with the water from a March snow, and the gusty wind seems to sing an accompanying song that highlights the mood for today.

I leave my hotel room and join my fellow folkknographers. We climb into the vans, make the short drive to downtown, and I climb out with the sharp wind biting at my lips and face. I walk down the streets, but I cannot see many people today. Is this because of the cold, gray winterish weather, or have the people just not come down the hill to the streets of this old coal mine town?

Suddenly, I feel that I am in an old Western American movie set, with old buildings on either side. I feel I am in the middle of some kind of ghost town. I see a few old people walking on the street and I notice a couple of small shops and an antique store have opened for business. I read a sign: "Ramp Hoes for Sale!" The sign decorates the windowpane of the one old hardware store on the steep hill. I am so curious to learn how one can hoe ramps. Also, I discover the only traffic signal on the street in this town. I am far removed from my home. The frosted streets and sidewalks make for a surreal scene.

The quiet, gray sky and the scurrying snow make me think that all of nature seems to be searching the people's mind and spirits. In this mood, I want to listen to their voices, their thoughts, and their stories and to understand the rhythms of their lives in these mountains. Our research can help us do this because it focuses on ordinary people.

In this town, I find that the people talk of ramps everywhere. They have many kinds of ramp foods: ramp salt, ramp jelly, ramp mustard, ramp gravy sauce, ramp seeds, dried ramps, cooked ramps, ramp burgers, and even ramp relish. They talk about ramps morning, noon, and night. Everywhere you find ramps, ramps, ramps! It's amazing how they talk about the ramps! This is the place they call the capital city of ramps! Ramps surely outnumber the population of this town of 3,000!

Today is the third day of our folkknographers' hard working week. Usually, the third research day is more difficult because most of the young students are tired; feeling exhaustion, missing home and the excited feelings of beginning have subsided. Dr. Lucas works sixteen-hour days. Also, the town is a little depressing now because the weather turns the sky a gray color and a freezing cold wind removes the warmth of the day. A March snow piles up five inches and now it is melting into a muddy slush this afternoon.

Dr. Lucas divides us into four groups, and the teams spread out to meet as many people as possible. I do not know how many people I can survey or interview today. With the cold wind, many people will stay home and not venture outside, I think. As the afternoon wears into evening, I realize that I only conducted one interview and collected two surveys today.

After supper, we get together in the folkknography writing lab and prepare our minds to write the narratives for today. Dr. Lucas leads a debriefing session every evening. We talk over our experiences, compare thoughts and data notes, and discuss our



feelings, observations and ideas. Dr. Lucas leads these sessions very professionally, warmly, and wisely. I learn a great deal in these sessions because I can listen to other students' thoughts and stories. I can express my feelings and what I hear from the voices of the people of Padua. I like listening to the other students. Also, this is a time when we have the chance to know and understand each other much better. This is another attribute I like about the *folkography* method. I am learning communication skills in the research field.

As we end the day, I discover that the total numbers of surveys collected is 365, and interview cases are 184. We have all worked very hard for a successful research project. I am sure I will wake up tomorrow morning at 5:56 A.M. again. These are numbers. Math is all about numbers. Math is about relationships. It is interesting to connect ramps, folkography, and math.

I remember one middle-aged woman saying, "Math is numbers, but to me it is all just symbols." Also, I recall her saying "I did ok with math until they introduced the letters." We cannot avoid numbers. So, I start every day with numbers on the clock, numbers of interviews and surveys, and even numbers of colleagues' rooms and phones. I will begin this all over again very early tomorrow morning.

#### Narratives by Bradley J. Fisher

##### California Girl

Today, some colleagues and I make our way to the elementary school to conduct surveys and gain insights into how the local students feel about mathematics. Upon entering the school, the sounds of class bells ring in my ears; the sounds of busy students scuffling along fill the hallways like the sound of a raging locomotive. The students rattle

through the halls; I also hear the sounds of slamming lockers, laughing, and much gossiping.

We move further down the hallway and into the school's office. My colleagues and I meet the school's third-grade math teacher. He is a short, thin man and appears to be 25 to 30 years old. Smiling, he leads us down the hallways and into his classroom. I notice lots of sports photographs on the walls of his classroom, particularly the ones with colors of the state university. But these are not just photographs of athletes; one has the advice of the esteemed basketball coach at the university: "Stay in school!"

Children begin filtering into the room and settle into their seats. With the students nestled into their chairs, one of my colleagues introduces us to the class and tells them that we are conducting a survey and asking questions about their feelings of mathematics.

I interview one young girl who has come to Padua from California. With her eyes shining brightly, she tells me that math is rather exciting to her and feels that it is very important to her daily activities. Flipping her long, dark hair back away from her face, she tells me the story of how her family managed to stumble into the town of Padua. She says her father is a logger for the local lumberyard and that he had been laid off from his previous job back home in California.

I ask her about her ambitions, her plans for the future. She smiles as she tells me that she wants someday to become a veterinarian. "I feel that the things I am learning in my class today should help me to be successful at figuring out the right amounts of medicine to give the animals I will care for later on." This child is maybe 9 or 10 years of age. She also tells me that she feels that her math teacher does a great job at teaching her basic skills she will need to one day become a veterinarian.

As we conduct these interviews, many of the youth say, "The teachers are the

ones to blame for us not doing good in math.” Clearly this is not the case for this child, in the classroom she is talking about. *California Girl* insists, “I am learning so much from him!”

I glance up at *California Girl*, asking her if she wants to stay here in Padua upon graduation. Much to my surprise, *California Girl* says, “Yes, because, I feel that this is a nice place to live in. I think that Padua is a good place, with lots of farmers, with lots of horses and other animals that I can care for one day. All these animals will be my clients.” Although a lot of the local prominent figures express reservations about the town’s economic future, this child sees reason to hope.

I ask my young informant a question not included on the sheet. “Why do you think people say Padua is a dying town?” I look around to see if Dr. Lucas is nearby. This may not be a good question. She responds immediately by saying, “It may be due to the fact that they don’t like change. Or...maybe because of the lack of jobs that seem to be coming into our town? Whatever the reason, I plan to live here. It’s clean, beautiful, and makes me feel safe.”

### Snicker Doodle Nurse

This morning I go to a local church to attend the services and gain some insight into what some of the locals think about math education in this area. The one thing that catches my eye upon entering the sermon hall is the old-style chandeliers that hang from the ceiling rafters, giving the church a medieval look. This town has much architecture and heritage to offer. Jae Jung, one of our research team members, says that this place looks like a movie set. I agree.

After the sermon, the congregation invites us to attend their monthly pitch-in

dinner. Here, between the salad and the snicker doodles, I get the opportunity to interview a nurse at the local hospital.

She tells me that mathematics is a very useful part of her daily work and that, had she not learned mathematics, she would have never been able to calculate the correct dosages of medications for her patients. “I look back on it now and realize that I did not know just how important those math classes really were,” she says while sipping her drink. “The math we take in school is the foundation we build life on later. Planning, counting, calculating, figuring.... all of that takes math. The better you are at math, the better you are at living life. It’s nothing spiritual like church here...it’s practical. The math makes you take life step by step.”

I grab another snicker doodle and head out the church doors thinking about the number five. I look down and finish my fifth snicker doodle and decide that I like math too.

### Union Man

My last interview for the day occurs when a man and his son enter the diner to have a meal. The man pauses for a moment to say hello to the owner. Dr. Lucas arranged for us to eat our meals here during the research and I am sure glad he made this place our eating headquarters because the owner’s smile always lights up the dining room.

While the two talk about the weather, I find myself glancing up from my coffee mug, only to find that he sports a tape ruler clipped to his back pocket. I stare at the tape ruler that he’s wearing and think to myself, “he is either a local contractor or a union carpenter.” He looks rugged. I move to their table to introduce myself to him, tell him why I am here in Padua, and ask for an interview.

I ask about his occupation. Confirming my earlier assumptions, he says, “I work as a union contractor.” He reaches over and ruffles his son’s shock of hair and adds, “It’s made a good living for me and my family.”

He tells me that many of the local industrial jobs have vanished from Padua. He says, “At one time, a big beer company was going to start a brewery in Padua, but the plans fell through, due to the fact that some of the local prominent figures in the town didn’t want to see this happen. The churches fought it. Thought we’d all turn into drunks. Only two years ago the city of Padua’s population was standing strong at a near 7,000; but now the town’s population has plummeted to a sad 2,300 people. There are fewer of us all the time.” He looks past me back at his son. He has sorrow in his face. I see this look all over town as we ask these questions. Math makes these people think about job loss, population decline, and what used to be.

I try to guide him away from the troubles of the town and more toward math questions. He tells me that he likes math and feels that his teachers did a “fairly good job” at teaching him the basic skills that he needed to achieve employment as a union carpenter. He says, “Without the mathematics courses that I took in high school, especially the geometry courses, I would not have been able to determine the accurate angles or acute measurements that I need to be able to figure up a job, or when I figure leveling a roof. Sure...math makes the man.”

He scratches his mustache and pauses for a minute and then tells me, “Unlike most of the others around here, I think that math should be taught up past the basic levels. A man needs more. All the students around the region needed to know how to figure measurements and do good math so that they would be able to find a good high-paying industrial job.” He looks down again at his son as their food arrives and gives one final

parting shot: “My boy will take math. I’ll take it again with him if I have to. Good math makes a good man.” With that, the two good men turn to their fried potatoes and ramps as I move back to my coffee.

### Narrative by George McCalvin

#### Morning Shift

I sit at the counter drinking a cup of coffee, enjoying the conversations and antics of my fellow researchers. I turn and see the morning shift waitress. She always has a smile on her face, no matter how busy or how slow the crowd may be. As she comes to the counter, I ask her if I could interview her. Does she have the time? She replies, “It would be my privilege to give you an interview. I don’t know much about math but what I know, I’ll share.” Her eyes sparkle.

We begin the interview. She starts by saying, “math is very important even if it is just basic math. I believe it to be the foundation that we walk on every day. I use percentages every day. I better be able to multiply  $5 \times 8=40$  or the restaurant could go into overtime with some employees. There are dozens of ways I use math. I make change, create the schedules, and figure the salaries based on the hours worked.” She tells me that all of her learning experiences with her math teachers were good. “I have heard horror stories about a teacher that was not as good as the ones I had. Math was a challenge, sure, but I learned ‘cause the teachers cared that we learn.”

She continues, “Math is an essential part of everyday living. We need math to perform calculations in all aspects of our lives not just in work. We need to be able to calculate things in relationships, household duties, as well as other subjects in school. I believe all students should be required to have basic math, and algebra one. I am

confident every student is smart enough to learn at least that much.”

Signaling “excuse me,” *Morning Shift* rushes off to fill some coffee mugs before she returns. I have a moment to think. These people do think math is very important. She returns and with a long sigh, says, “Look...I know I’m just a waitress, but I’m proud of what I do. I like these people and I like our town. I like to think that I am making my contribution to our way of life here. Math helps me do that.”

I know Dr. Lucas says we must stay objective, but I think to myself, “We could all take a lesson from this wonderful waitress.” I return to my table and my colleagues thinking about work ethics, math teachers, and morning shift waitresses.

### **Conclusion and Summary Statements (Dr. David Lucas)**

Reviewing the data—our interviews, especially—suggests some tentative conclusions:

1. People in the community and region of Padua appreciate and respect math and math education.
2. People surveyed and interviewed connected math acquisition with the concepts of knowledge, intelligence, and success in life.
3. Adults and senior participants make a direct association with math and math skills to economic development and career advancement.
4. Youth in this study see a direct connection between math skills and future education and career opportunities.
5. Discussions about mathematics led adults and senior participants to comment about their community’s past, present, and future.

6. Discussions about math led youth to comment about their teachers, their future goals and their personal views of math, math teachers, and education in general.
7. Adult and senior participants made a noticeable distinction between *basic math* and *advanced math* in discussions and interviews.
8. Differences or lines drawn between basic math and advanced math seemed less clear to the young people interviewed.
9. Teachers are viewed as key mediators of the understanding of mathematics by most participants of this study.
10. For most participants, mathematics understanding and mastery is motivated by the potential use or employment in the future. In other words, the need to know mathematics is directly linked to how math skills will or can be used.

The people of the Padua area seem to take a common-sense approach to learning mathematics: If you can't use it, don't bother. Most informants appreciate a good math teacher and most define a good math teacher as a person who empowers students to learn. A good math teacher is someone who "stands over you 'til you get it" (Padua resident). Few blamed math teachers for their own inability to do or understand math, although many informants lamented that math teachers "need to be a lot nicer people" (Padua youth).

Seniors saw little need for additional study of math, but when asked about the idea of math classes for seniors, many suggested computer classes for seniors instead. In each age group, discussions about mathematics and mathematics education led the informants to connect and comment on other facets of their lives. They easily related mathematics to other life experiences.



Many informants saw little use in the community or region for higher forms of math, especially if the present economic situation persists into the future. Unless there is a change in the development or the economic status of the region, youth will leave the area to seek better employment and living situations. Informants appear to believe that *basic math* will serve those who stay in the region.

Overall, participants were quick to respond and eager to discuss mathematics and mathematics education. They expressed a deep appreciation for the acquisition of mathematics skills, an appreciation that spans decades. The summation may have been best expressed by a teacher in a Padua area junior high school interview:

For a student to seek math education beyond the basics of addition and subtraction, that student must believe that something is out there waiting for them. Taking Algebra, Geometry and Calculus bespeaks of hope. Hope for a future in engineering, science, medicine, or aeronautics. You don't need to calculate formulas in the unemployment line. Math measures tomorrow. Math is forward thinking. When you ask us about math, then we must think about tomorrow...we think about the future. Lots of other ideas become out of style or yesterday's news, but we are sure that we will use our math knowledge again tomorrow...and the day after tomorrow.

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## Appendix A

Padua Project  
Undergraduate Student Folknographers  
March 20-26, 2004

Brandon Balandra	South Point, OH
Brad Fisher	Gallipolis, OH
Sarah Fisher	Ironton, OH
Holly Harrison	Stout, OH
Jae Jung	Huntington, WV
Ty Kelly	Ironton, OH
Seth Knore	Minford, OH
George McCalvin	Ironton, OH
Erica Melvin	Ironton, OH
Melissa Meyers	Portsmouth, OH
Michael Qualls	Barboursville, WV
Brandon Raeuchle	Flatwoods, KY
Nicky Sprouse	South Webster, OH
Kayla Stapleton	Olive Hill, KY
Tracy Swan	Chesapeake, OH

## Appendix B

### Perceptions of Math in Appalachia

#### Interview Questions

##### Adults (18-55)

**Before** beginning any interview or questions, you must secure the verbal permission (oral consent) of the participant. You **must have** permission to commence the interview.

Questions:

1. Would you please describe your feelings about math?
2. Do you feel that math is important for your life? (Probe for examples)
3. Did you enjoy taking math in school? (Probe for stories)
4. Do you consider yourself successful at solving math problems?
5. If math were not required in school, would you have taken math classes? (Probe for reasons)
6. Do you use math in your present career (job)? (Probe for how)
7. Describe how your life might be different if you had additional math skills. (Probe for examples)
8. Describe what levels of math should be required for youth in school.
9. Do you think that your teachers did a good job explaining math?
10. Describe your math education you had in school.

## Perceptions of Math in Appalachia

### Interview Questions

#### Seniors (55-Over)

**Before** beginning any interview or questions, you must secure the verbal permission (oral consent) of any participant. **You must have permission** before commencing the interview.

#### Questions:

1. Would you please describe your feelings about math?
2. Do you feel that math is important for your life? (Probe for examples)
3. Did you enjoy taking math in school? (Probe for why/why not)
4. Do you consider yourself successful at solving math problems?
5. Describe what levels of math should be required for youth in school.
6. Do you think that math education prepared you for life?
7. Do you use math in your daily activities? (Probe for examples)
8. Do you think it's a good idea to offer math classes to retired adults in your community? (Probe for why)
9. Do you think that your teachers did a good job explaining math?
10. Describe the math education you had in school.

## Perceptions of Math in Appalachia

### Interview Questions

#### Youth (Ages 10-17)

**Before** beginning any interview or questions, secure the permission from both the minor participant's parent/guardian **AND** the minor participant. You must have permission (verbal consent) from both the parent/guardian and the minor participant **before** commencing the interview.

Questions:

1. How do you feel when you hear the word "math?"
2. Do you feel that math is important in your daily activities?
3. In what ways might math be important for your future?
4. Do you consider yourself successful at solving math problems? (Probe with questions about the use of the calculator)
5. If math were not required in school, would you still take math classes?
6. After you have completed all of your schooling, do you think you will ever use your math knowledge? (Probe uses)
7. What are your feelings about advanced math?
8. Do you enjoy taking math in school? (Probe why or why not)
9. Do you think that your teachers do a good job explaining math?
10. After you graduate, will you seek a job here in the Padua area that involves advanced math? (Probe for examples or ideas)

**Perceptions of Math Survey  
Padua**

1. **Date:** 3/ \_\_\_/04    2. **Age Group:** (10-17) \_\_\_\_\_ (18-55) \_\_\_\_\_ (55-Up) \_\_\_\_\_  
(Check Only One)

3. **Gender:** Male \_\_\_ Female \_\_\_    4. **Employed?** \_\_\_ Yes \_\_\_ No

**Directions:** *After reading the following statements, select (circle) the response that best fits your feelings or attitude.*

5. I like math.

Agree strongly      Agree      Disagree      Disagree strongly

6. I use math in my life everyday.

Agree strongly      Agree      Disagree      Disagree strongly

7. A person can get a better job if he/she has good math skills.

Agree strongly      Agree      Disagree      Disagree strongly

8. Our local schools do a good job in teaching math.

Agree strongly      Agree      Disagree      Disagree strongly

9. Learning math skills is important for the future.

Agree strongly      Agree      Disagree      Disagree strongly

10. Advanced math skills increase employment possibilities in Padua.

Agree strongly      Agree      Disagree      Disagree strongly

11. Math classes should be required at every level of school.

Agree strongly      Agree      Disagree      Disagree strongly

12. Few jobs in the Padua area require advanced math skills.

Agree strongly      Agree      Disagree      Disagree strongly



## Appendix C

### Shadows of the River

David M. Lucas

Written in Padua

Between the rocks and the laurel  
The rushing waters flow  
Along the ever foaming banks  
Where all the hard woods grow.  
Laid within the shadows deep,  
Mountain mysteries wait  
And secrets of the ages sleep  
Within the forest's gate.  
Footsteps echo from the past  
Down the rocky trails,  
But their intent cannot surpass  
The sounds that now assail  
The shaded green and mossy rock  
Standing guard today,  
Knowing nothing of the clock  
Or care for human ways.  
The mountains know how to stand.  
The waters still make a bed.  
The only offer they make to man  
Is a place to lay his dead.

March, 2004