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David Brooks: Ok, it's December 20, 2006, and I'm David Brooks, the interviewer for the University of Montana's Oral History Project. Today I'm talking with Johnny Lott. Mr. Lott, I was hoping you could start with some of your personal and educational background, what brought you to Missoula and the University of Montana?

Johnny Lott: I grew up in Tennessee, in west Tennessee, and went to a small high school, 400 students, roughly, grades 7-12. A little community where I grew up before that had five teachers for eight grades. So it was actually big compared to many of Montana's schools. But upon graduating from high school—and this is growing up in a rural area and neither of my parents had gone to college—so I was the first to go to college. I got scholarships and went to Union University, a small Baptist school in Jackson, Tennessee, and majored in math. When I went there I had no idea what I was going to do. It was one of those things where I was only 16 when I graduated from high school and I wasn't old enough to get a real job, so going to college seemed like the best thing that I could do at that stage. I was going to major in math because it was the only thing that I really liked, and thought I might be an engineer. [I dreamt it] for a month or two, but that didn't last long. I wound up teaching in math for a variety of reasons, not the least of which was the Vietnam War, because people who were teaching math and science got legal deferments. And so I became a high school math teacher.

On graduation from Union, I moved immediately to Atlanta and started teaching in the DeKalb County public schools, Lakeside High School. And at the same time while I was there, this was during the New Math movement, so it's kind of my first introduction to curriculum in the high school, which wound up being a life-long interest and goal. I found out that I didn't know some of the topics that they were teaching in high school, so my department chair encouraged me to go to Emory University and finish a master's, which I did in about 1969, I guess. And from there I went to a college prep high school in Atlanta, but I only stayed there for one year because staying there one year I knew that it wasn't the right school for me to be in and didn't know what I wanted to do so I went back to graduate school and started working on a doctorate. I finished a doctorate in math at Georgia State. Georgia State hired me as a half-time instructor while I was working on that degree and when I finished that I stayed one more year there where they hired me as a full instructor. Again, trying to give me time to figure out what I wanted to do.

I started job looking and I wound up going to Atlantic City, New Jersey, where I saw a little 3 x 5 card stuck on a bulletin board that said, "Visiting Appointment at the University of Montana." And I called the number that was there, went over to the hotel room, and met Rick Billstein, who is still a faculty member here today, and Shlomo Libeskind, who is now at the University of

Oregon. I went over and interviewed with them. I had no idea where Missoula, Montana, was. Truthfully, I hardly knew where Montana was. It was up there somewhere. I went back to Atlanta and my wife Carol and I laughed about it because there's no way we would move to Montana. And then they called and offered the job. We looked at each other for a few minutes and said, "Sure. Why not." Georgia State had offered me a job and I could have stayed there, but I felt like I was going to be a student if I stayed there because I had just graduated from there. So we packed up some of our stuff, left what little furniture we had in storage. So the two of us and our year-old son moved out here and we spent one year living in Bill Ballard's house, who was a faculty member in mathematics and on leave. During that year, I found some more jobs, none of which I liked, and Shlomo, who was on leave from here, whose job I had while he was in Israel, wanted another year's leave. So they offered me the job again and we said, "Ok. Let's stay another year," and we bought a house with a guarantee from one of the local real estate agents that she would buy it back if at the end of the year we needed to sell it. So we moved on Ronald, about three or four blocks from campus here.

During that year the Math Department asked someone to resign. We had a faculty member who was not showing up to teach classes and the president had the department give him many opportunities and after the last opportunity to stay and start showing up on time, he didn't show up to teach the next day so they asked him to resign and he did and the department offered me his job. So that was the beginning of a pretty happy relationship here. I came to stay nine months and stayed 32 1/2 years!

DB: So what year was that when you first came?

JL: I came here in 1974.

DB: I want to go back. You mentioned that when you were first teaching you were introduced to a New Math movement that had to do with curriculum you weren't familiar with. Can you briefly describe what the New Math movement was or is? Is it still around?

JL: In a sense it's still around so I'll hedge this question in lots of ways. One of the things that had happened with Sputnik's going up in roughly 1957, I think: the National Science Foundation was founded and it started encouraging development of curriculum in high schools and grade schools. Much of that curriculum was developed by mathematicians. The truth of the matter is, books were published, put in print, and given to schools without very much training for teachers. Teachers were kind of at a loss. And I have to admit, I was a fairly decent student as an undergraduate but I got out there and they were using terms and language in math that I truly didn't know because I'd been in a very traditional, small college program. This movement was talking about sets, it was talking about subsets, all of which are common now. And it might have been common in some circles then, but it wasn't common in the school that I had gone to.

So I got in a program where I was very fortunate to have had some fantastic teachers at Emory. One of the past presidents of the National Council of Teachers of Math was one of my

instructors. I just learned a ton of stuff about math, and in the process learned about the math that was being taught. The National Science Foundation also set up a program where it would pay for master's degrees if teachers would go back and work on them. So the National Science Foundation essentially paid for the degree. I learned a lot of math while I was there. In fact, I learned a lot about how much I didn't know, and that was one of the reasons for going back to graduate school later to work on a doctorate.

When I started at the program at Georgia State, they didn't officially have a doctorate when I started but they said it was in the works and they'd probably get it. I was one of the first two graduates from that program. Two of us graduated in the same ceremony, but her name started with a "D" so she graduated before I did. But we were the first two from Georgia State in that program in 1973. It gave a good leg up on the study of math and math curriculum and my interest there was geometry. And, in fact, the summer after that was over, the first book that I worked on was with this Iris Dayoub, who graduated at the same time. She was a high school teacher and we spent the summer writing a transformational geometry book, which is still in print, without revision. I mean, from 1973 to 2007, basically, that's a pretty long life. So it's been a good run.

And I mention the National Council of Teachers of Math and the person who was the faculty member at Emory there because that became kind of a life-long interest that continued even here. And I later was elected president of that, through a whole variety of things that we can talk about later if you want to, or not if you don't. I don't know where you want to go, so.

DB: We'll get to it, sure. I kind of want to go back to when you first got here. You didn't mention what position you were hired as. What were you teaching? I guess just describe the department, your role in it, some of the faculty/student interests.

JL: Sure. When I got here—If you look at the whole history of the Math Department—I will throw a little of this in—but when you look at the whole history of the Math Department it has a very long history of having faculty members who stay most of their careers. The first faculty member was a woman, Cynthia Riley. She was one of the original faculty members on campus and she was around for about 10 years. She had been a high school teacher here in Missoula and in other places before she came west. But one of the strongest chairs that they had was N. J. Lennis, Niels Lennis, was here for about 40 years. And there are other faculty members like that, so the department had been really stable from its inception until probably the '60s, '50s or '60s.

And in the late '60s they had hired some people in mathematics education, late '60s, early '70s. Rick Billstein actually finished his doctorate here and he was a faculty member. Shlomo Libeskind had immigrated from Poland and Israel and finished his doctorate in Michigan and then came to the University of Montana and he was in mathematics education. Allen Hoffer was a third one who was here in mathematics education. Allen left and went on to the

University of Oregon, but when I got here Allen had already gone so there was Rick and Shlomo in Math Ed and Shlomo wanted to leave so it was Rick and Johnny then in Math Ed.

The classes that I taught, the one that I remember the most, quite frankly—I had two sets of classes that I taught. One was a math for elementary teachers class, which wound up playing a huge part in the whole history of my being here anyway, because Rick, Shlomo, and I wound up writing one of the better-selling textbooks in that area for colleges that's in its 9th edition now. But I taught that class, and then we had a class, Math 301-2-3. It was a year-long sequence and we were on the quarter system. Just called Math for Secondary Teachers. The first quarter was basically logic, proof, stuff of that nature. Second quarter was some number theory. And the last quarter was geometry and I'd written a dissertation in geometry so it was a great fit for me. Turned out to just be a nice mix.

The department has always had some separate interest in sects. There was an algebra interest group, an analysis interest group, a statistic interest group, and then the math ed interest group. So that was kind of the way the department was divided. That's changed and morphed a little over the years, and there have been other sectors added. I mean you've still got those basic ones, but there's a discrete math group or a combinatorics operations research type group now that wasn't there before, and then there was an applied math group too. So it has changed some along the way but it's still got it same basic set of people.

There were fewer than 20 faculty members when I got here. The chair of the department was Charles Bryan, who still lives here in town. He was another one of those—he was a Montana person from Livingston who actually got his degree at Montana State College, his undergraduate degree. And then I believe he got his doctorate in Arizona, but he was back as department chair. And at some point in the late '50s or '60s, the department had changed its whole style of how it was run from having a kind of chairman who was chair for a long period of time to having a three-year rotating chairmanship. So Charles was chairman in one of his last years as chairman when I first got here. And then we had a whole series of chairs after that. I was chair for a short time at one point in there too. So it's been a good department.

It was a collegial department. Bob McKelvey was one of the faculty members who was here when I got here and he had brought with him a National Science Foundation program to enhance or improve the doctoral program and give it some new emphasis in mathematics. So with that he was able to bring new faculty members in, so when I got here in '74, there had been two or three or four new faculty members just added in the last couple of years. Bill Derrick came, McKelvey came, Stan Grossman came, George Votroubek came. I'm not sure if that's all but there were three or four that just came right there to help that doctoral program get started.

It was a good fit for me and the department was and continued to be for a very long time a very collegial kind of place with people kind of respecting each other's work. One of the things I always liked about the department was in its unit standards—when unit standards were finally

written for promotions and merits and things of that nature—there was a statement in there that says, "There are different expectations of different people." Where the math ed group, of which I was a part, and the statisticians generally of that area were expected to do a lot of service work, work with teachers. And specifically in math ed we were expected to be involved in schools and the Montana Council of Teachers of Mathematics, where people in the other areas of mathematics were more research-oriented. So it was a different world. I'm not saying a better world. It was a different world than what you see today. Because as the doctoral program began to develop, there got to be more of an interest and emphasis on research all around, including in math ed, and there's nothing wrong with that, but the department changed over the period of time, as one would expect.

DB: So I want you to follow up a little more on a couple of things. You know, you mentioned twice specifically how the military or war has affected math in general and your career, going back to Sputnik, the New Math movement coming out of that. And then your movement into math as an alternative to the Vietnam War. And you sort of implied that you weren't the only person at the time interested in doing that. You also said that the department had just grown when you got here by a few positions. Was that partially due as well to the Vietnam War? You know, we often associate emphasis or funding in the sciences and math with military research and development. Am I making an untrue connection there?

JL: I don't think you're making an untrue connection. I'm not sure it's quite as strong right here as maybe even I implied. First let me just tell you about me and I won't pull any punches. I graduated from college in 1965 when there was a big push and the military was growing and people were being drafted right and left. I had a graduate assistantship to work on a master's in math right then. I was talking to my father, who was a World War II vet, and he said, "Before you do this and go to graduate school, you should talk to the draft board and see what's going to happen." And in a small county you could call up and say, "What will happen if I go to graduate school?" I did and was told quite honestly that I might be there three months and at the end of that time they would probably draft me. Small county and they were looking for everybody they could to fill their quotas. Since I had a degree in teaching anyway, that was part of it, and I was offered a job almost immediately as a teacher. In fact, I had already been offered a job before I got this assistantship. I decided to take it. That was before even the lottery system in the draft and I had two classifications for most of my career. One was 1-A, which was every summer, and then I was reclassified to a much higher classification that would get me drafted. Excuse me, it was, yeah, 1-A every summer, which was the highest draft category you could have and I'd get a lower classification during the year when I was teaching.

So I never knew from year-to-year whether I was going to be drafted or not. Some of my friends who were teachers were drafted right out of the classroom. I wasn't. Math and science were kind of sacred right that minute because we needed people who could work in those areas. And then when the lottery system came along and they were drawing numbers, I got a very high, or very low [number], depending on how you look at it. It was not likely that I was going to be drafted with that number.

So I was still teaching in schools anyway when that happened, but it didn't matter. But it had a huge effect on my life. It turned out, for the wrong reason—I may have gotten into teaching for the wrong reasons as a way to somewhat avoid the draft. But it turned out to be one of the best decisions I ever made because working with students is what has basically made my whole career, I think. I always liked working with students and I liked teaching and, as I said, I probably got here for the wrong reasons but I think it worked pretty well.

In terms of this campus in the '60s, before I got here, I guess this was a pretty interesting and radical place from everything I've read and heard about it. The doctoral program that McKelvey brought with him was not so much because of the war or the war effort. There was a movement then, as there has continued to be, to try to train mathematicians to be better teachers because many mathematicians go through and they're researchers but they have no background in teaching. So his program that he brought here for that doctoral program had some special emphases with some special classes that students would take, the doctoral students would take, to try to prepare them to teach. One of them was simply called "College Teaching Class," where you really examined all the facets that a small college or university type might have to work in and know something about in order to survive in an era like that. It included publishing but it also included how to teach and different strategies for teaching and all the things along those lines.

It was an innovative program at the time and we had a number of very good graduate students go out of here. We've had a number of good graduate students over a long period of time, but every person who graduated had job offers, almost automatically. And this was in an era—you go through lots of eras here where there are people who are really needed and then you go through an era where they're not so much needed. When we had many mathematicians who immigrated from Eastern Europe, there was time there when jobs were hard to come by. But our students still seemed to find jobs over the years.

DB: The other thing you mentioned that always catches my ears is you said the department was very collegial when you first came. Describe that. What do you mean by collegial that sort of brings to mind good stories?

JL: There are any number of good stories, and I'm not saying the department didn't have arguments, because a department is always going to have arguments. But in general it seemed to me that the faculty members respected other faculty members in different areas, like the algebraist would not think badly of educators, and vice versa. I mean, pick your area. I'm not picking on algebra right this minute. That's not always the case in mathematics departments, especially in relation to mathematics education, because mathematics education is a fairly young field in mathematics that really probably only has about a 50-year history. Maybe 60, but it couldn't go back any further than that. So it's always been kind of the new kid on the block and kind of suspect. And this university gives a pretty good mix of that because there have been as many as five educators in the math department and then two in the School of Education and

usually with pretty good working relationships all the way up and down the line. But there was always a question of where this group of people might be housed. Do they belong in mathematics, because they aren't doing pure math research? Or do they belong in education? But they're not really doing pure education research either. So it's a group that's had to find its way. It's had a pretty good life here, I think.

DB: Why has the university or the department chosen to encourage math education in that way?

JL: I can't talk about how it decided to make that move in the first place, because that was before I got here. You might want to interview Rick Billstein, just as an example, because he came here as a graduate student. But one of the things he did, and he's a part of the math ed history in this school, was that for his dissertation he did a dissertation that had to do with the remedial or developmental math classes, which was something the department needed and needed to know something about right then. So almost immediately after he graduated he was in charge of that program, and I think even before he graduated he was in charge of that program. So he just kind of naturally merged into the department. He grew up in Billings and had come here and was a part of it. I don't know how Allen Hoffer was hired, who was the other early math educator. But then Shlomo was hired pretty much to follow Allen and so it had two people to start with. And then when Shlomo did come back—when I was offered the job we had three in math ed—from there it grew.

We were successful in getting a number of grants over the years, and some of them were huge, that built math ed. We've had a small master's program that was already started. It started off the National Science Foundation grants. For the same way I got my master's at Emory, they had a program to similar to that here that Ballard, Meyers, [Howard] Reinhardt, Gloria Hewitt, and others had established here. So they had a master's program for teachers that had been fairly successful. So when Rick and Shlomo came along, our goal was to continue that and keep it growing. And then along the way, and this is all the way up into the late '80s or '90s, mathematics education was added as one of the emphases that you could get a doctorate in. We've had a few students, a handful, not too many. We never tried to grow that program very much because there weren't many of us and you need a pretty strong group in order to make a doctoral program go. But Heidi Kek…Kemp…who was one of my advisees, and was one of the first ones to finish is at Western Colorado College, a pretty outstanding faculty member. Her husband got a degree in pure mathematics at the same time, so they made a pretty good couple. I don't know, maybe I didn't answer your question.

DB: You said that you weren't trying to grow that in terms of the Ph.D. program. How did it come about then? Was it student interest, was there just demand in the market?

JL: There was demand. The truth of the matter is, as long as there were two or three of us here in mathematics education, we had our hands full working with the prospective elementary teachers and the prospective secondary teachers who were working in the master's program.

With three people that kept us busy 12 months out of the year, basically, if you wanted to. We spent a lot of time working with the Montana Council of Teachers of Mathematics, which is a small state organization and had its roots both here and at Montana State. So we did a lot of service work with those. We spent a lot of time in the field working with teachers.

Then the grants started. Rick had an early grant, a grant that kind of combined the Montana Department of Education, Office of Public Instruction, Montana State, the University of Montana, and I think at that stage it also had Dillon and Billings and Northern involved in it. So it was kind of a partnership. One of the early grants had to do with the metric system because that was when we were having a huge switch, I mean a huge pitch, to move to the metric system, so that was one of the earlier ones that Rick was involved in. And then there were a series of other grants over the years. There's no way I could remember all of them at this point. But I mean I had several grants where I worked with very bright high school kids in the summer. Brought them to campus and they lived here for six-to-eight weeks in the summer with counselors and studied math every day. So that was another kind of big push that we had for a while.

Then we were successful in getting a number of teacher preparation grants doing professional development with teachers in schools. One of the more successful programs that Rick and I worked with here on this campus—and Montana State was also involved—was called the EMME Program, the Excellence in Montana Mathematics Education, and it was designed purely and simply to bring elementary teachers back to campus and over a period of two summers—and they had to come for two summers—we would teach them both math content and methods to try to update them and their skills. The truth of the matter is, with the program going both here at the University of Montana and at Montana State—we worked in conjunction on the thing the whole way—we produced the leaders in mathematics education for, well, they're still in leadership positions in this state. Many of them are beginning to retire now.

But following up on that, and working with the Montana Math Council, a group of the MCTM leaders (Montana Council of Teachers of Mathematics) met in the basement over in the math building and our whole thing was, "What should we do to push mathematics education in the state next?" There had been the EMME program, which was for elementary teachers, there had been a separate program that Rick had worked on for high school teachers integrating mathematics and computer technology. IMPACT was the acronym and I can't remember all the right words, but that had brought high school teachers together. So we had these two very successful programs and the next thing was, what would we do?

We sat in the basement and simply dreamed and one of the thing was, well, we should write an integrated math program for high schools, just change the whole curriculum in high schools, because that seems to me like one of the things we need to do. Many European countries and Asian countries use integrated mathematics, but the United States programs had always been different, with an Algebra I, Geometry, Algebra II kind of track for high schools, where in integrated math you'd bring all the math topics together and blend them and put together

some kind of coherent package that could be a high school program. So that became one of the dreams, not the only one, but that was one of them.

We were in the process of trying to write a grant, again, involving the colleges—Montana State, University of Montana primarily—and the Office of Public Instruction to do that when we got an opportunity. Dan Dolan was the mathematics coordinator in the Office of Public Instruction. Found out we might be able to get some money from the Exxon Educational Foundation. We wrote a small grant to the Exxon Foundation, asked them for about $50,000 to do a survey of schools in the nation about integrated mathematics. One, to try to define it—what would it mean if you use that term? And then, two, was there any interest in moving toward that kind of curriculum?

It was one of the strangest grants we had ever written. It was to a private foundation. And when the letter came back thanking us for the award it had a check attached to it for roughly $48,000 I think. They didn't quite give us 50 but it was very close. But it was attached to it and it was like, here. Go do it. So we did. We did a small grant that was finished in about 1990 trying to define what integrated math was and we found out that people were saying there was huge interest in such a program in the country. We were told in that survey that the schools could move there within three to five years, which we didn't believe because nothing moves that fast in education, I don't care what it is.

But anyway, that's what we were told. So it gave us a good springboard because the National Science Foundation, at the same time, had developed another program asking for states to do systemic initiatives. The systemic initiative what you had to do was agree to change everything a state did in mathematics or science right then—it was one or the other in its initial stages. Well, we already had this foundation laid and we could change the high school curriculum, we could work with the teachers and do those—we could work with the universities to try to train teachers in some different ways than they'd been doing, and we thought, we've got a great shot at doing this. So we wrote the grant proposal and submitted it to the National Science Foundation with Dan as the director, and it was funded.

By the time it was funded, Dan had married someone from Connecticut and moved. So Maurice Burke, over at Montana State, and I took it over and directed that project. We hired writers who were high school teachers from Montana and all across the nation and we wrote an entire high school curriculum. Along the way, there were five components to that. The University was deeply involved in the whole piece because the Commissioner of Higher Ed at that point—whose name escapes me right at this minute but I could think of it if I worked on it for a minute, —agreed that the University of Montana and Montana State would work actively in this and they would not fight over who got what out of it. So the grant was funded to the Montana Council of Teachers of Mathematics and it was for $10 million, with the University of Montana having a sub-contract, Montana State having a sub-contract. Office of Public Instruction had very little of it in the final analysis, but those three were the major partners.

We went about dividing the program up. The first summer it was all on this campus where we had people coming to work with, do the professional development of teachers. We had writers writing material. The writers would write material, give it to the professional development types; they would try to teach it to the teachers the next day. They'd react to it. We'd rewrite it. This went on for—well, the initial grant lasted for five years. We had to add science late in the process so we actually wound up hiring the state coordinator in science and before it was over we paid for the state math coordinator before the Office of Public Instruction finally did away with that job. But any royalties that were earned on these materials—and they are still being published by Kendall Hunt Publishing Co.—one chunk of that royalties goes to Montana Math Council; a small chunk goes to the University of Montana, which is set up in a Math Ed trust fund; an equivalent amount goes to Montana State; and then the writers get tiny amounts. And I mean truly tiny at that stage.

But it's a program that was used in many places in Montana. It was important because, I mean, for the state, not just because it tied together the two major universities. It also tied in the Office of Public Instruction and before it was over, the legislature had given us a million dollars to put technology in the schools. And literally it was one of those things where, in the last moment, at one of the legislator meetings when it stopped the clock as they usually do to do things, it was like, Ok, here's the SIMMS Project. We have to do something with it. That's what it was called, SIMMS. Ok, we'll put a million dollars in it. Where are we going to put it? Well, you couldn't give it to Montana Math Council because that wasn't a state agency, so somebody said, give it to Montana State, and that was a huge nightmare for Montana State because all of a sudden they have this money that has to go to schools and they have no way to manage it. So we had to manage that for them. So we put technology in schools; trained 75 percent of the high school teachers in the state. The project's still going. I mean, the money's run out but the curriculum is still going.

DB: You know, that's interesting because almost all of the developments you've talked about you've correlated with grants, private funding, and here we are at what's, you know, in name anyway a state school, right? And that's the first mention I've heard of actual state money, though your programs have been explicitly directed at public education.

JL: The funding for the state has never been great in education. [Laughs]

DB: And I know that that certainly has been a historical trend at this university, as well as most public universities, that it's more grant research-funded. Is math ahead of the curve on that?

JL: Math had been for a long time ahead of the curve, Ok. In the last administration and the current administration, the money that had gone to math and science education, a lot of it was stripped away from the National Science Foundation and given to the Department of Education and then it was turned into state block grants and it was dissipated, in my opinion, to the point that it was far less effective than it ever was when it was at National Science Foundation. I'm not saying that only because I had a huge grant, but the truth of the matter is, when it's

dissipated like that, and it goes to a state agency and then it's distributed to the schools, in that method you don't have a focus or a state focus, where with the state systemic initiative—and there's been tons of stuff written about those state systemic initiatives. Not every state had one; there were in all maybe 21 or 22 that got them. But they had a huge impact on some states. Now the amount of money—$10 million—is not a drop in the bucket to some states like New York and California, who had these, and most states had these, kinds of grants. But for Montana, it was a gigantic amount of money and we could take that and actually get it to the schools, where it could do some good.

Putting the technology in the schools and training the teachers at no cost, I mean absolutely no cost, was amazing. We got the million dollars in state match from the legislature. In fact, we had a couple of million dollars before it was over from the state legislature to put technology in schools. And at one point—and this is in the early '90s—Montana probably had more technological equipment per student than any state in the nation. I mean, if you don't keep that kind of thing up, then it loses over a period of time.

But our goal—we went out and measured classrooms and talked about what was realistic to put in a classroom because we knew that schools weren't going to build new facilities for this technology. But we finally figured out we could put about one computer for every four kids in the classroom. In the early '90s when we started this, it would probably cost $40,000 to outfit one classroom, which is totally outrageous and we knew that it was outrageous at the time but among the other things that we did in this grant was to form some partnerships with Texas Instruments. And Texas Instruments was in the process of developing the TI-92 calculator, which was a programmable calculator. A tiny little thing, $165 each, which would do much of what you would expect a computer to do at that stage. So we went from a $40,000 per-classroom cost to having those little calculators that every kid could have one of—you could check them out like textbooks and you could do the same thing for $6,000.

So it was a huge project for this state and it's had many ramifications. The Montana Math Council and the Montana Science Teachers Association were huge beneficiaries of this, but especially the Math Council. It gave them money to do scholarships and to continue having a pretty impressive program up to today. One of the things that they work on now, in conjunction with the science teacher's organization, is the Montana Learning Center, where they have taken over the houses that were built there on the Missouri River when they were building the dam at Canyon Ferry. And that now is a learning center for math and science. So they have about 15 houses there that they use now and have programs there. I mean, that's one of the far-fetched outcomes of this project.

But I mean, it gave a little bitty council of never more than 500 members ever—even in its heyday when it formed a partnership with Apple where it was one of the first private entities that wasn't a company that would sell computers at cost to teachers. That's when it had its most members because people would join the Montana Math Council if they didn't have anything to do with math simply to buy a computer cheap. And these were Apple II's and IIe's,

so it's been a while ago. What I'm trying to give you is, through these grants, and I mean that's not the only one, there had been others, but others can talk about them. Rick Billstein, for example, has still going the STEM project, which is 6 through 8 mathematics, which has developed a middle school curriculum. It was set up in a different way, through a different piece of National Science Foundation, but it, too, was to develop the middle school part of this, where we developed a high school part. And they would work together. But we spent a ton of time trying to get the university working with schools and with teachers.

I think it's been a successful relationship all along the line and along the way, as well as working with the other public schools. We didn't spend much time working with Montana Tech because it didn't have a teacher-preparation program. But we worked with the others, and we also worked with Carroll College and a little bit, but less so, with Rocky [Mountain College]. So we had almost all the schools in the state. We didn't have the University of Great Falls, but we also had input from the tribal schools because one of the goals of that project was to try to write curricular materials that would have a Montana or Native American emphasis. So many of our examples were chosen with Native Americans in mind. Many of the modules and lessons that still exist are based on those things. We had training sessions where we would invite people from the tribes to come and talk to us about what we might do and how we might use the math that is kind of natural to the tribes in our math program.

DB: That's interesting. You know, usually when you think of the last few years in the movement to better Indian education in this state, the focus is history, teaching history, for example. You don't think of math having a Native American emphasis to it.

JL: Right. Well, one of the—I'll give you one example. I mean, this is an example that we've used many times, but with some of the tribes in the eastern part of the state, quilting, which wasn't part of their kind of natural, native history, but it's something they've adapted over the years. There's a great ceremony that's still done in some of the schools at basketball games where a student will choose either a teacher or someone from the community and the people in the community will quilt a quilt, you know, of some variety, and in the basketball ceremony they'll wrap the person in a quilt and that's the way it's presented. And there's a great module that we wrote, "Traditional Design" is the title of it. But it has to do with quilting and some of the quilting features in part of this ceremony. It's a stretch, but we were trying to find things that were a part of not just the ancient history of the Native tribes but also of today's history. You know, how can we integrate this in to make it more interesting to everybody? And we took some criticism for it, by the way, simply because it was a Montana curriculum in its beginning more than a national curriculum. It's turned out to be a national curriculum, but some of it's had to be changed along the way too.

DB: So one element I haven't heard you talk a lot about is the relationship between what you were doing, what the department was doing, and administration here on campus.

JL: Well, that one's been interesting because when I first came here under President [Richard] Bowers—and I had been here maybe two years or so—when as a very young faculty member I was put on one of the retrenchment committees, which is one of the most painful experiences I ever had at this university. It had nothing to do necessarily with President Bowers, but it was one of those periods where the university had to slash its budget again and it was at a time when it was like, ok, you would have to identify programs that aren't pulling their weight or doing whatever and we have to do something with it. I spent a year on that committee as a young faculty member and we did finally make some recommendations, but the net result of that, I think—and I could be a little wrong here—is one part-time faculty member in Italian, who was retiring—the Italian program was done away with at that stage. And that might be the only visible result out of all of that. It was really painful for me personally. So I tried to stay away from that aspect of life here on this campus as much as I could.

I was on the Faculty Senate for a while, I was on the executive committee of the Senate for a while. It's one of those things where I've never been—I have to choose my words very carefully here but I'm going to say them anyway—I've never been super impressed by the way the Faculty Senate has operated. It's never seemed to be an effective way of governing a campus. And there's a strange dichotomy between administrative views and faculty views and union views and they're sort of all merged. And even though I was active on it for a while, I tried to stay away from it as much as I can.

I've tried to work in other ways. I've never said no to committees if I thought I could do something, so I've served on units standards committees, and I think those have a lot of value, where departments have to sit down and try to decide what it is that's important for merits and promotions and things of that nature. I think that was important. Years ago, I was on the editorial board of the College of Arts and Sciences Forum, which is a now defunct publication, but it was a publication where we actually did articles about people on campus and things that were important on campus. I worked on that with Howard Reinhardt, who later became dean of the College of Arts and Sciences, but he was a former department chair in the Math Department too. And that was something that was really fun and it was good to do. I enjoyed that.

Along the way, I mean I have had some other interesting kind of, out of the ordinary sorts of experiences, but both my wife and I were on a national committee for NCAA. We had no background in athletics, either one of us. But she was in the School of Ed and later was chair of the Department of Curriculum and Instruction. I was in the Math Department. From our work—mine with the National Council of Teachers of Mathematics and hers with the National Council of Teachers of English—at the same time we were appointed to the core committee or the committee that studied the core requirements in academics for athletics. So here she was as an English representative and here I am as a math representative on the same committee. That was pretty interesting because we worked to try to get a little bit more coherence into some of those core courses that high schools could use for athletes. They'd count as college-intending courses that the athletes had to have. So there was something that we were there in some

sense representing the University of Montana, but truly representing the National Council of Teachers of Math and the National Council of Teachers of English. So it was another strange, strange kind of set of circumstances that led a husband and wife team to be on the same committee for NCAA, but it worked I guess.

I haven't talked much about the administration at all. Right before I came here there was an article in *Time* magazine describing the University of Montana as a graveyard of presidents. And I have to admit that in my early years here we had quite a few until President [George] Dennison came along and added some stability. Because of the money and the funding of the university system, I can't imagine having his job or being president of this university. Over a long period of time, the funding has been so rocky at times. The academics are affected, I mean they're affected in small ways. I'll give you an example from the Math Department. It in some ways continues today because salaries are lower here than almost anywhere in the nation. You have a hard time finding faculty members. Right now, they're in their third search to replace me in mathematics education in the department. The first two failed because they did make offers but the people went to other places for more money and for other reasons. It's hard to do. And some of us have made decisions to stay here regardless of salaries because I think the benefits of being here have been tremendous and I'll use myself simply as an example. I had other opportunities along the way but the department and the administration here was supportive for me to do different kinds of work and not necessarily mainstream academic work. That grant that I just described, the SIMMS project, was one that kept me out of the classroom for five years. And we did hire people behind me to replace me, but they gave me the freedom to do that kind of thing because it was important for the state and I think it was important for the campus. And there are other examples like that that you can give along the way. But it was a very supportive department and in general a supportive administration when you came up with something like that that you wanted to do.

I had a number of small bits of help along the way. I mean, I had three sabbaticals while I was here. One of them, they gave me the freedom to go teach in a small fishing village in Alaska for a year, to go back and work with kids again. One of them I was able to work on a geometry book. And the third one was less successful, primarily because I had a car accident that interrupted a lot of the work that was supposed to be done then, but I was given the opportunity, three opportunities like that anyway. And so the administration was very supportive of me personally. I have no complaints at all. I sometimes worried about the money and what we were doing and finding new faculty members but there are some funny stories along the way.

Among them is trying to get the math building itself renovated and up to shape. I mean, it started out as a women's dorm, as Craig Hall I guess it was. The original Craig Hall, not the one we have now. But it started out as the women's dorm and later morphed into a math and physics department. And then later just into a Math Department. But when you go look at that building, it's clear it wasn't built as a classroom building. Now, over a hundred years later, they are putting an elevator on the back of it. But that elevator was something that we worked on

for over 20 years, trying to get it in that building. There have been times where it needed paint, it needed updating desperately, and there was never money to do it. President Dennison told us at one point if we could go out and raise the money he'd make sure that we got a building built but we had to go raise the money. And there have been little things done but it's still a building in vast need of renovation in my mind. It's one of those buildings that I like the outside structure. If they could keep the outside structure and gut the inside and start over it might be really a great place. But it's one of those things where at different times you would wander in and wonder how could a department be in here. It's not quite that way now, but it has had a number of renovations in terms of putting technology in there.

One of the things that the SIMMS project did for this university was it gave the initial money to put two computer labs in that buildings. We bought the original equipment and had those two rooms redesigned for computer labs. So that was one of the grant's contributions to the university. The research part of the university was super-helpful in doing that. Ray Murray was the person in charge of the research then and he was extraordinarily helpful in making that happen because one of the things that he was willing to do is use part of the university's indirect cost to do that and that's helped the department. I mean it's changed a number of times since we finished that 15 years ago, or not 15 years, oh, it's getting close. About 11 years ago, I guess. But it's changed a number of times over the years since then to be upgraded. But the initial money came out of the SIMMS project to do that. In fact, they're still labeled as the SIMMS labs.

DB: This may not be an easy question to answer, but how much has technology changed math or the teaching of math? I mean, you know, is the computer not essentially different from a piece of paper and a pencil? It's just a different medium in which you do math? Or does it, in fact, change math and change the teaching of math?

JL: You get a very biased opinion from me. I'll give you a little bit of history. One of the first projects, calculator projects, that was done was done in Montana. And Art Wilson was a graduate student in education and he was my advisee, along with Levon Kooster, who was in education at that point. But Art did one of the very first calculator studies in grade schools to try to decide how calculator usage affected grade school kids' learning of mathematics. And it, along with all the subsequent studies, have consistently said that kids who use technology—and I'm going to expand it here from calculators to graphing calculators to computers—that kids who learn math using those tools have not hurt their traditional skills any and they're better able to solve problems in general than are kids who don't use those tools. So you find people who are very traditional in mathematics, but the research essentially says that they can learn better, in my opinion, than they do without it. It's not the same. You're not learning the same way. You're not learning exactly the same things. But you're not hurting the traditional skills. There was always a worry with young kids that they would not learn their multiplication tables if they used calculators. Well, it doesn't seem to have hurt them any. There's only one study in fourth grade, out of all the multitude of studies that have been done, that said that the kids might have been hurt. And there have been many studies before and since that one that

have not agreed with it. But that's continued and math keeps changing. It doesn't always change in the departments as fast. The university is really slow to change when it comes to some stuff like that. Many of the calculus classes are taught with technology now. Pre-calculus and graphing calculators—they're almost an automatic to help students learn concepts. In high schools, especially, graphing calculators is a necessity. Using Excel as a spreadsheet to do math, and a graphing calculator, it's just common. In many cases, far more common than it is here on campus. They university's been slower to change. But when you look at the classes and the way they're taught with linear algebra, some of the calculus, some of the upper-division stuff, it's used all the time.

One of the classes that came in with the SIMMS project here was using math modeling with technology to work with teachers. This course was actually designed for secondary teachers as a result of the SIMMS project, to try to get prospective teachers ready to teach out of that project. Can we turn that off for a second and let me get something to drink?

[Break in audio]

DB: Ok, ready?

JL: Yep. I don't even know where we were, so…

DB: Well, you know, I wanted to—you were talking about technology and studies showing that it in fact improved students' abilities to learn. This is a question I suspect I know your answer to, but I'm going to ask it anyway because there's a pretty common perception that math, maybe more than anything, is that subject that people either get or they don't. You're either inclined to math or you're not. Yet you spent your entire career in math education, which I assume would speak to the idea that that's not necessarily true.

JL: Well I'm one of those people who thinks every kid can learn mathematics. I'm not one of those people who think that what we're necessarily doing in mathematics is the right thing. I mentioned the integrated math project because one of our goals in that project was to try to write a curriculum that students would be interested in and one of the way to get students interested is simply give them challenging problems. Things that interest them that can challenge them. And that's not the traditional form of mathematics because you're not learning math by rote. One of the things we learned in the process is that you do need to do some practice, which in our first round of that curriculum had very little practice in it. So we learned a pretty painful lesson along the way too and that is that we had to put more practice in there. We could get the kids sucked into the mathematics and get them involved in it, but they have to practice some of the skills that they learn along the way.

But I do—you hit on that perception of there are some people who can learn mathematics and some people that can't learn mathematics. This is an old line and it's one that you hear all the time. You would never hear people in the United States say, "I can't read," or "I don't like

reading," but they're more than happy to tell you, "I hate math," and "I can't do math." And they're happy to pass that on to their kids, where they would never do that about reading. I was president of the National Council of Teachers of Mathematics. It's an organization of about 100,000 teachers. It's the biggest one in the world. And that's one of the things that this university let me do is they let me take the time off to do that. One of my pushes was mathematics literacy for all.

It's hard to define what mathematical literacy is. What does a person need to know to function as a mathematically literate adult? And can we give them that up through high school so they can continue that, or at least know that they can do mathematics along the way? I think that we can. I don't think that we're always good at it. But one definition—and a lot of people wouldn't accept this—but I kept saying if you simply have adults who can read and understand the mathematics in *USA Today*, a common newspaper written at about the 7th or 8th grade level, essentially, that might be mathematically literate enough. Because the mathematics in there, some of the mathematics that's in that newspaper, is fairly sophisticated. And one of the classes that we had here that was most recently taught by Dr. Rudy Gideon, who was a former Math Department faculty member, who is now retired. But his wife had surgery last year and I got to go teach that class and one of the things I did was simply cut graphs out of *USA Today* and took them into the class and gave them to the members and said, "Ok, here's the math that you've got for your article today. What's the headline?" And our whole thing was, can you interpret those graphs? And that is a form of mathematical literacy and that's one of the things that adults have to be able to do when they pick up that newspaper and read it.

So one of the things, when you ask people what they think mathematical literacy ought to be that they start talking about—most frequently they're going to talk about statistics and probability, two topics that until the last 10 or 15 years did not appear as part of any high school curriculum, or it appeared in minor ways. But in the last 15 to 20 years, it's changed. And one of the things that maybe sooner or later will change in the department here is as a freshman course, or a kind of core math course that might meet a general ed requirement here on this campus, a course in statistics and probability might be a core course that would make more sense than some of the things that we sometimes teach. College algebra, in my mind, is not a core course. I mean, because most people don't work with college algebra, or not knowingly work with college algebra anyway. So I think there's some implications there that sooner or later the university will face, but it takes a long time for change to happen.

I do think that we do have to approach the perception of mathematics that adults have that they pass onto their kids. I think the university has a huge responsibility in doing that. And one of the things the department has been pretty good about over the years here on campus is going out to schools and talking to kids and talking to adults about things like that. David Patterson, who's the current department chair, has worked with Math Counts, which is a competition for middle school kids. His son has been involved in it, and that may be one of the reasons that he's been involved in it, but that's ok, it doesn't matter. I mean, he's just one example, but there have been many people like that over the years and I think anything we can

do in that regard helps improve the ties of the university to the school community and the community at large.

One of the things I have to do in January is go give a talk at the Art Museum about art and mathematics. I spent an incredible amount of time working on that. One of the modules that we wrote in that high school curriculum was called Mart, or Math and Art; it was kind of a merger of the two. So one of the things I'm going to do is talk about some of the ways that math has affected some painters; not all, but some, and some of the things that have been used. And I've got some pretty current examples.

DB: Well that's, of course, the other big hurdle or perception to get over with math, right? After "I can't do it, I don't want to do it," is, "Why is this important?"

JL: Right. I think that should be in the forefront both at the university and at the high school level is always, "Why is this important?" It's not that you can give an absolute reason for every piece of every bit of mathematics, but by working on it a little bit, you can give tons of examples where it is important and the kids will know that it's important. You don't have to tell them it's important, they'll know by your examples of your problems that it's important. You know, you're doing polynomial equations or something like that and you can tie it to compound interest, for example, or some kind of interest, not necessarily compound. There's a way that you can tie that in there that they'll be sucked into learning the mathematics so [inaudible] what they're doing.

You know, studying population and looking at exponential curves, for example. One of the modules that we wrote in that high school curriculum that we got an award from the governor was on an AIDS module that we wrote because in the '90s, when the growth of AIDS was tremendous in terms of number of infected people, we studied it from a statistical and mathematical standpoint. You know, if this goes unchecked, what's going to happen? And then at the same time, we gave another kind of model that had to do with the decline of the Blackfeet nation because of smallpox, where if you looked at the mathematical model, you'd swear that that whole population would have been decimated and gone, but things happened and people adapted, just like with the AIDS module. The AIDS model met new medicines were adapted and things changed, but it's one of those things where the mathematical model doesn't quite fit the real world, but you didn't have to give kids a reason for studying that. I mean, simply looking at the numbers and looking at the graphs gave them a reason for doing it. We took a little bit of flack over the AIDS module.

DB: Well, I was going to say, you know, suddenly you've got math, which is not generally considered very political, politicized, and it makes me immediately think, all right, what do I see graphs about all the time right now?—global warming. You know, you couldn't think of a more politicized topic right now, perhaps, and this is math.

JL: Well, just to give you a little bit more about the department, one of the things that it has every year, it celebrates Math Awareness Week. And we've done this through a variety of modes and models, but one of the speakers a few years ago that I was actually able to bring in was someone from the University of Washington, who talked about global warming. This is now maybe five or six years ago, but it was incredible. And he was leaving here to go to the North Pole area to study the thickness of ice, you know. It's pretty phenomenal. But we tried to do things in that department that would pull people in and sometimes it's politicized and sometimes it's not. But we did a staged reading of *Arcadia*, a play by Tom Stoppard. There were several underlying messages there. One of those underlying messages was girls could learn math and they could learn it very well. And I mean that was one of the hidden messages that was there. It wasn't so hidden, but we did a staged reading with the help of the Drama Department to do that one year for Math Awareness Week.

DB: So is it true: girls and math?

JL: Girls and math are great. They do as well as boys do. And at this stage there are more girls and women in math kind of majoring in math at the high school level and at the undergraduate level than there are guys. In fact, it's kind of a reverse problem now. There are fewer guys going into math.

DB: If I'm remembering statistics right, that's true of university educations in general.

JL: Well, at the graduate level, it is still the case in the doctoral programs that there are more men than there are women. That's changing slightly, but it'll take a while.

DB: So how's that being reflected in the faculty? Is it?

JL: Oh, I can tell you that one pretty clearly. I told you that the first person in the Math Department was a woman, Cynthia Riley. If you look at the tenure-track positions in the university, one of the next ones was Gloria Hewitt, who didn't get here until 1960. So you're talking about from 1893 or 1895, when the university started, until 1960 before you got another tenure-track faculty member.

DB: …that was a woman.

JL: That was a woman. Then there was another little period in there. Elizabeth Pusick was another faculty member who was hired who didn't stay very long on a tenure-track line. But now if you look at the department, there are—I can't remember if there are five or six women in a department of about 22, so it's changed considerably. And it was time. I mean, purely and simply it was time.

Gloria was, I believe, the third African American woman to get a Ph.D. in mathematics in the United States and she spent her whole career here on campus and was a department chair.

That's something that had a lot to say for this department, I think. It had a lot to say for her for putting up with this department, too, for a long period of time where she was the only woman! She did an outstanding job as chair. A three-year term was normal for a chair and she served longer than that and then retired. But she was very instrumental in doing some things in the department. Among the things that she had studied and learned was that departments that wrote answers to their comprehensive exams for master's and doctoral students, where students could go look at them and study them had a higher pass rate. So that's one of the things that she instituted in her chairmanship. I don't know whether that's still going on or not, but it was something that she had some research to back it up. She's also one of the people for the department who actually helped establish a scholarship program and put it on a pretty good financial foundation. She took that as one of her goals and she, working through the Foundation, she got some help in setting that up. So she was pretty outstanding.

DB: So thinking of instrumental things that have happened in the department, you've mentioned that you were on the National Mathematics Council?

JL: National Council of Teachers of Mathematics.

DB: Served as the president of that; you've published some of the long-standing textbooks in the field of math education. When I go talk to someone else about the Math Department, what are they going to say that—what's the legacy of Johnny Lott? What has Johnny Lott left in his time here?

JL: [Laughs]. They'll probably start laughing. Thank God he's gone!

DB: I mean, I'm asking you to put aside modesty here for a minute and reiterate your accomplishments, big and small.

JL: I think they will talk about the SIMMS project, which I mentioned. The work in the state with mathematics education is huge. I think they'll recognize that. And that would probably be first.

The work as president of the National Council of Teachers of Mathematics was a big deal. I mean, I'm not being modest here. That is an elected office, and to have someone from Montana elected to that office is pretty incredible. Because of the work that we've done here, going back to Bill Stannard—whose son, Jon, works with the Upward Bound program here on campus still—Bill was at Eastern Montana College and was the first Montanan elected to the board of directors of that National Council of Teachers of Mathematics. And off and on since that time, we've had a steady stream of people elected to that office. Or, excuse me, not as president, but elected to that board of directors. We have one high school teacher from Helena on that board of directors right now. So it's been pretty constant, pretty steady across many years. I was elected to the board of directors, and being on that board and working with a number of the publications of that council, that's something that will probably be recognized. I don't know how many people will recognize that.

Among the things, I was the first—they had a journal for elementary teachers called *The Arithmetic Teacher.* While I was there and chair of the editorial panel, that one changed to teaching children mathematics. So it's now one of their stable, long-term running journals. I was chair of the editorial panel of *Student Math Notes*, which is designed for kids grades 5-10. We started a publication called *Math Education Dialogues*, where we took on very political topics and tried to present both views because of the math wars. This is coming out of the New Mathematics era where people revolted against it, mathematicians in particular revolted against the New Mathematics movement. But *Math Education Dialogues* was a publication that we started and did, and I was chair of that panel. So all those kind of gave me a springboard to go on and be president of that organization. But that would probably be recognized first because, I mean, we haven't had—Bev Chin, here on campus has been president of the National Council of Teachers of English. I mean those are the two kind of biggest organizations. The math teacher organization is far bigger than the National Council of Teachers of English, but Bev has long been active on a national level. So she's just another person in that line. But I would think that the work with teachers would be first. I might be wrong, but I think that would be my legacy.

DB: Great. Wel,l I don't have any more questions for you, unless you'd like to offer some other memories or thoughts about the department. You're leaving soon, so feel free.

JL: Oh, I can tell you lots of funny stories about our department. I'll tell you one about Gloria Hewitt. When Gloria was chair, Gloria and I liked to argue. I put that first, okay, and she's a person who I sincerely respect. But we had a faculty meeting and I thought she wasn't listening to anyone and wasn't listening to the faculty because she had this habit of going, "Ok, now you didn't vote right on this last time. We're going to reconsider it today." If the votes didn't go the way she wanted them to go. I mean, this is pretty normal in her tenure. She would probably tell you this too. But I know she would tell you this story because I went into her office and we kind of had a little yelling match up in her office when she was chair. I got really angry and I stormed out of her office and slammed the door and I went downstairs. My office was directly below hers in the math building. In less than two minutes she stormed into my office and she says something along the lines of, "Honey, let me teach you how to slam a door," and she rocked the whole building with slamming my door. She's one of the people who I respect the most out of that department, but it's just little things like that that, you know, you could have those kinds of arguments—intense super-arguments—and you could be friends when it was all over.

DB: So that is in fact a story about the collegiality of the department.

JL: Absolutely. And she's still a friend. You can do those kinds of things. There are other stories like that but that was one where she put me in my place in a very nice way. And when it was all over then we just stood there and laughed. That's all I could do was laugh when she did it because I had acted so infantile, slamming her door, and she demonstrated to me what really could be done. There are lots of stories like that.

There have been some absolutely great people in that department, from the administrative assistant level through chairs through long-term faculty members. Howard Reinhardt, one of the past chairs and former dean is just one of my heroes and he always has been.

I'll tell one more story. When I was here the very first year I was invited to go give a colloquium over at the University of Washington, excuse me, Washington State University. Being very young and not knowing much about Montana, my wife, son, and I loaded into a Volkswagen and drove from here to Pullman in the middle of winter in a snowstorm, which was incredibly stupid but we didn't know any better. We had moved out here from the South. We got there. I did this colloquium at Washington State University, which was a disaster. I mean, it was one of the first talks I had ever given. I was very young, very nervous, and did a lousy job. I mean that's the only way to put it. Luckily, I had to go the next day and give one at Eastern Washington. So we had to follow the snowplow from Pullman to Spokane. But I had to give the second talk there. I think if I hadn't had to give that second talk I would have just hidden away and never come back to this campus. But I came back and I talked to Howard Reinhardt about it. He gave me much encouragement as a young faculty member to put that in its perspective. Yes, you probably had a lousy experience. What can you learn from it and where can you go from there? And that kind of sums up in my mind a lot of what was going on in that department. There were people who were willing to help young faculty members. He gave me a tremendous amount of help right there in that one day. I have tried to tell him that over the years, but here's somebody who was seasoned, a well-known faculty member, active in all facets of this campus throughout all of his career, taking the time to work with me and help me when I needed it. I don't know any other way to put that. That's another example of the type of collegiality. That's a little better than the door slamming incident, but very, very helpful, and that's how I found the department to be throughout most of the years. Good place. Good doctoral programs, good graduate programs in general.

DB: But you've retired and now you're finally leaving as of this year.

JL: I will tell you one other thing I did. I left the department because of being president of the National Council of Teachers of Mathematics. The retirement system and everyone encouraged me because of the salaries and the way salaries are done when you retire. I basically had to retire for my own financial benefit later. And Provost [Lois] Muir asked me to apply for the job as the Director of the Center for Teaching Excellence. And I took this job and it turned out to be a pretty great job. Very different from anything I had ever done because this, as the director of the Center for Teaching Excellence I got to work with faculty all over campus. The office had spent a year with nobody in it. Mark Cracolice, who is chair of chemistry now, had been in the office part-time. He got a reduced load or something from one class to run this office and then he had become chair of the department and stopped doing this one. And so it had a year where nobody was in the office. And then I got to working in here and it gave me an opportunity that turned out to be one that I really like because one of the things—and I can just give you an example right now—that we're doing in January is we're setting up one of the first faculty

development workshops. It'll be a day-long series of workshops. We didn't know whether or not faculty would come. It's on January 16. It's the day before spring semester starts. And we've had almost 80 people sign up and I think it had never been done before. So there is opportunity. This faculty still wants to keep learning. They want to know more about teaching. So that puts me back in line with the way I started. I started as a teacher and I guess I'll wind up being a teacher until I end. And then I was asked to go to Ole Miss to help them develop a center like this one. So that's the next phase. And it's with many regrets that I'm leaving here. But I am going down there for family reasons and because there's a challenge in that job.

DB: Good. You also told me before we started taping that you are going to keep your house in Missoula. What's the pull?

JL: What's the pull? We own an old house down on 5th St., which some of the early faculty members lived in, we were told. We renovated it. It was a dump when we bought it. That's the only way to describe it and we have the pictures to prove it. It was falling down and we decided that it was a house that needed saving. It's over 100 years old and it's one of the early houses on this side of the river in Missoula. And we like the people here. We certainly love the house, but the house would just be a house without the people around. One of my next door neighbors is Merle Manus, a former faculty member in mathematics. He takes care of us and he has since he retired and we hope he'll continue to because it's a great neighborhood and we're down in an area where there's a mix of apartments, condos, private homes, and the whole bit. It's an area of town that we like. We sometimes get serenaded when the bars close and people are walking back to the dorms, but it's a lively part of town and this is a good place to live. It was a good place to have a kid grow up and it certainly will keep us here I think for the future.

DB: Good. Well good luck at Old Miss, and hopefully we'll see you back in Missoula.

JL: Thank you.

[End of Interview]