CAPITALIZING ON *MICROSOCIETY*:

How Students Profit from Real-World Learning

FINAL REPORT

Prepared for
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December 2003

CHAPTER ONE: INTRODUCTION

MicroSociety, Inc. (MSI),[1] founded in 1991, has developed a unique and ambitious approach to the learning and development of elementary and middle grades students. It aims to nurture higher order thinking skills, in large part by making learning intensely relevant and reflective of "real world" experience. It accomplishes this through its program that creates miniature societies that contain a legislature, judicial system, governmental and social service agencies, and an array of profit-oriented business ventures. Students have potentially great latitude in assuming a role in their miniature society that allows them to make productive and personally fulfilling contributions. For their efforts, students earn "Micro Money" that enables them to purchase goods produced by other students. Typically, the *MicroSociety* program occurs several times a week in one or two-hour blocks and culminates in the "marketplace" when students buy and sell their wares.

As an ambitious whole school reform model, the *MicroSociety* program aims to effect shifts in both what and how students learn and in the relationships between students and the adults who teach them. The power of the learning derives from the challenges that arise in students' jobs, and in the experiences that evolve in their societies. The hope is that as students work on real world tasks and problems, they will improve the academic skills that are a part of their regular classroom curriculum. In addition, they will encounter new concepts and intellectual challenges as they work with their peers to solve problems that arise in the course of running their business ventures and social/government agencies. According to *MicroSociety's* founder, George Richmond, if the in-school experience reflects "the fundamental contexts, structures, and forces of actual existence," it can facilitate students "learn[ing] to shape themselves and the world in which they dwell."[2] As students see connections between school and their futures as workers and citizens, they develop more positive attitudes toward school. For their part, as teachers

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[1] In this report we use MicroSociety, Inc. (MSI) to refer to the corporation that holds the trademark for the *MicroSociety* program. MSI has a national office located in Philadelphia, PA. Its staff develop refinements to the program, disseminate materials related to program implementation, and provide support and training to school staffs that are implementing the program.

[2] Richmond, G. H. (1973) *The Micro-Society School: A real world in miniature.* New York: Harper and Row. 265.

witness young people's resourcefulness and commitment to their jobs, they rethink their roles in the classroom and are willing to become guides, mentors, and facilitators to students.

The Evaluation

The Focus of the Evaluation and an Overview of Findings

In 1999, MSI engaged Research for Action (RFA) and Kutzik Associates to conduct a three-year evaluation of *MicroSociety* programs in 14 schools across the country.[3] At that time, MSI had recently begun to shift its programmatic efforts from working with individual teachers or groups of teachers in a school to working with an entire school. MSI staff was interested in assessing the effectiveness of the *MicroSociety* approach as a whole school reform effort. They wanted to understand the impact of the program on students. We designed a three year study that combined qualitative and quantitative methods to measure the impact of *MicroSociety* on student achievement as measured by test scores, student attendance, students' attitudes toward school and the program, and their perceptions of themselves as responsible, contributing members of their miniature societies.

Over the course of the study, we modified our initial research focus and questions. For example, it became evident that we would not be able to make strong claims about the *MicroSociety* program's impact on students' achievement based on test scores for two reasons: 1) comparable test score data were not available across all of the sites; and, 2) at this early stage of implementation (all 14 schools were in either their first or second year of implementation when the study began), it was unlikely that the *MicroSociety* approach—which is not aimed directly at improving test taking skills—would have generated increases in standardized test scores. And so we developed measures of intermediate outcomes related to the important program goals of student engagement, real world learning, use of literacy and numeracy skills, and student self-direction.

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[3] All of these schools were receiving resources from the federal government's Comprehensive School Reform Design Initiative. In year 1 (AY2000-2001) there were 15 CSRD schools, in year 2 (AY2001-2002) there were 18 CSRD schools and in year 3 (AY2002-2003) there were 24 schools under CSRD contract. Our analysis tracked the 14 schools which began their contract with MSI in the 2000-2001 academic year and continued in the program to the 2002-2003 academic year.

In addition, early interviews with teachers, principals, and students and observations of students at work in their ventures and agencies indicated that students' jobs were their central experience in the program. And so we refined our research methods to focus squarely on what students were doing in their jobs because this is where the outcomes intended by program developers would accrue. Further, our early qualitative research showed that there was wide variation in students' experiences on the job. We knew that it would be very important to understand this variation in order to explain what specific aspects of students' experiences contributed to their engagement, learning, and self-direction.

In this report, we draw on three years of qualitative and quantitative research to address the following questions:

1) Are students engaged in the work of their miniature societies?

2) In what ways and under what circumstances are students' on-the-job experiences offering them opportunities to:
   - Become engaged in real world tasks?
   - Take charge of their learning?
   - Practice and refine their reading, writing, and math skills? (We recognize that the *MicroSociety* program provides experiences that tap into and develop other aspects of intellectual development. At the request of MSI program developers, our research focused on literacy and numeracy.)

3) What is the impact of the *MicroSociety* program on students':
   - Ability to draw connections between school and their futures as adults?
   - Real world skills such as time management, problem solving, and planning?
   - Achievement as measured by standardized tests, and student engagement as indicated by attendance?

4) What aspects of students' on-the-job experience contribute to positive outcomes related to real-world learning and self-direction?

Overall, our research shows that students are highly engaged in *MicroSociety*. They love the program and take pride in a job well done in their ventures and agencies. Students believe that what they do on the job prepares them for adulthood. More specifically, students reported that they are learning the important skills of time management, problem solving, research, and planning. The way the *MicroSociety* program is implemented in a school makes a major difference in whether students report that they are reaping the benefits intended by program developers—namely, real-world skills and self-direction. Key characteristics of implementation that contribute to these positive student outcomes are:

- Opportunities for students to participate in a thoughtful job selection process that includes such things as creating a resume, filling out an application, having a job interview, and talking with a job counselor and their parents;
- Opportunities to plan and manage the work of their ventures and agencies;
- Opportunities to review, reflect upon, and improve the ways that their ventures and agencies are working.

Because of the limitations of the test score data available to us, we were not able to make a definitive assessment of the degree to which participation in the *MicroSociety* program enhances schools' capacity to improve student achievement as measured by standardized tests. However, there are encouraging data from Florida about the *MicroSociety* approach and standardized test scores that we report in Chapter III.

Significant numbers of students reported that they use reading, writing, and math in carrying out their jobs; students also realized that these academic skills were important to their success on the job. However, there were considerable variations in the level of skill demanded and degree of challenge the work presented for students. There were differences among jobs within a particular venture or agency (with greater challenge for managers), across different kinds of ventures or agencies within a school, and across schools.

These findings are discussed in detail in Chapters II and III. They offer clear direction to program developers and school staff about how they can ensure the quality of the *MicroSociety* program so that students reap the full benefits of its unique approach to learning.

Research Methods

Our findings about the impact of the program draw heavily from what students said in our interviews with them; what they reported on surveys; and, what we observed them doing in their ventures and agencies. These data were considered in connection with the information we gathered from interviews with key adults. Just as the MicroSociety program places students at the center of their learning, students and their experiences were at the center of our research. We followed the lead of *MicroSociety's* founder by asking: who can better judge whether students have experienced changes in motivation, self-direction, and learning than the students themselves? We have taken the students – their opinions, feelings, self-reported participation, and suggestions – very seriously. Notably, this is not the usual course in educational evaluation research. In most evaluative studies of curriculum programs, the actions and opinions of professional staff are given vastly more weight than those of students. In fact, in much research, students appear only as statistics – test scores, attendance data, disciplinary data, etc.

A second key methodological feature of this research has been the integrated and iterative use of both qualitative and quantitative methods. Principal research methods included:

- An extensive questionnaire of students' behaviors, perceptions, and attitudes about *MicroSociety*, administered to over 2000 fifth graders in spring 2001, and again in spring 2002.[4]
- Analysis of scores on standardized tests of reading and math.
- Analysis of changes in absenteeism and disciplinary infractions of participating students.
- Focus groups with students, and interviews with principals, coordinators, and teachers at 8 of the 14 *MicroSociety* schools participating in this study.
- Systematic observations of *MicroSociety* program operations at 8 of the 14 participating schools.

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[4] Two schools with no fifth grade substituted sixth graders.

The qualitative research provided rich data on how the program is implemented at individual schools and how students, teachers, and administrators understand the goals and purposes of *MicroSociety*. The qualitative data also provided detailed information about what students actually do in their jobs. These observation and interview data were collected in a sub-sample of eight of the schools purposefully selected for their variation across school levels (elementary and middle), across geographic location (northeastern, southeastern, and western United States), and across type of community (urban, suburban and rural). (See Table 1.)

TABLE 1
Characteristics of School Sample Selected for Qualitative Research
1998-99 School Year Data

School	Grade levels	Setting and Geographic Location	Total Number of Students	Percent of Students in Poverty	% Latino	% African-American	% White	% Native American	% Asian	% Other
Carter	Pre-K-4	Urban (Southeast)	1,300+	85%	84%	4%	4%	1%	2%	5%
Jackson	PreK-5	Urban (Southeast)	750	93%	9%	76%	0%	9%	2%	4%
Buchanan	K-5	Rural (Southeast)	700	27%	2%	4%	79%	3%	2%	10%
Grant	K-5	Suburban (West)	550	77%	31%	31%	0%	5%	11%	23%
Johnson	K-6	Urban (West)	620	71%	19%	47%	0%	2%	6%	26%
Adams	K-8	Urban (Northeast)	1,476	N/A	17%	28%	48%	1%	8%	0%
Harrison	5-8	Urban (Northeast)	500	93%	2%	92%	0%	3%	0%	2%
Taylor	6-8	Rural (Southeast)	1,000	33%	5%	3%	91%	.40%	1%o	0%

The typical site visit was conducted by either one researcher over two days or a team of two researchers over one day. During the site visit, researchers interviewed teachers individually and in focus groups, met with and interviewed the site coordinator and principal, and interviewed students. (See Table 2 for a listing of research activities at each school.)

Additionally, whenever possible, site visits were conducted on "Micro days"—days when students were working in their ventures and agencies or when there was a whole school "Market Day." In total, we observed more than 40 ventures and agencies, three Market Days, and three professional development sessions for teachers offered by MSI trainers.

TABLE 2
Interviews Conducted During School Site Visits[5]

School	Interview with Principal[6]	Interview with site Coordinator[7]	Interviews with Teachers[8]	Focus Groups with Teachers[9]	Focus Groups with Students[10]
Carter*	2	2	2	2	3
Jackson	1	2	3	1	2
Buchanan*	2	3	0	1	3
Grant	1	1	1	1	1
Johnson	0	2	3	0	1
Adams	1	2	0	1	1
Harrison*	2	3	0	4	3
Taylor*	2	2	4	2	3
TOTALS	**11**	**17**	**13**	**12**	**17**

These observation and interview data were used to inform item development for the student questionnaires and survey data were used to redirect observation and interviews. The quantitative data collection consisted of the results of surveys of more than 2,000 participating students over the three years of the study at each of the 14 participating schools. The survey consisted of nearly one hundred items about students' activities, attitudes, and behaviors. For the purpose of uniformity of data, fifth graders were sampled at all schools except for two which did not have a fifth grade, in which case a sixth grade group was substituted. A variety of statistical techniques were employed to create scaled measurement of student responses about their experiences in *MicroSociety* and school-wide activities. (For a detailed explanation of the scales and statistical analysis, see Appendix B.)

The combination of the quantitative data and the qualitative findings allowed us to identify which elements of the students' experiences in the *MicroSociety* program were most strongly related to the development of real world skills (e.g., organizing time, planning projects, obtaining new information) and positive attitudes toward school.

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[5] Starred schools were visited during 1999-2000 and 2000-2001; other schools were visited during 1999-2000
[6] Interview with Principals (45-60 minutes)
[7] Interview with Site Coordinators (45-60 minutes)
[8] Interviews with Teachers (20-45 minutes)
[9] Focus Groups with Teachers (4-8 per group, 45-60 minutes)
[10] Focus Groups with Students (4-8 per group, 30-45 minutes)

Both our observations of and interviews with students in the eight schools where we conducted qualitative research indicated that there is quite a range in the ways in which different schools have implemented the *MicroSociety* model and how fully they are realizing its ideals. In order to credibly assess the impact of participation in *MicroSociety* on students, we needed to relate student outcomes to the quality of implementation of *MicroSociety* at the students' schools. Therefore we set about to measure the degree to which program developers' assumptions and intentions were being actualized in all 14 schools. To do this we developed survey items that measured how effectively the *MicroSociety* model was being implemented, i.e., to what degree students had access to the experiences that program developers intended. As mentioned earlier, our qualitative research showed that the heart of *MicroSociety* was students' experiences in the job. This finding guided our design of the student survey which measured, among other things, the "Quality of Implementation" of the *MicroSociety* model in a school.

The second step was to assess the degree to which students were achieving the desired outcomes. Again, we developed survey items that measured students' perceptions of the degree to which they had reaped the intended benefits of *MicroSociety*. These items were grouped into five scales which measure student outcomes. These scales include: "Real world skills," "Quality of student community in the school," "Quality of instructional community in the school," "Student engagement in *MicroSociety*," and "Student engagement with the *MicroSociety* job."

Finally, we identified what aspects of students' experience in *MicroSociety* made the most difference in achieving program developers' goals by using correlation analysis to assess how specific program features related to impact on students. The use of statistical analysis correlating responses on the Quality of Implementation and Student Outcome scales enabled us to derive the findings that follow about *MicroSociety*'s impacts on the development of students' real world skills, their academic skills, and their attitudes toward *MicroSociety* and their school.

In the following chapters, we discuss our complete findings and their implications for capitalizing on the *MicroSociety* approach so that students can reap the full benefits of real world learning.

CHAPTER II: REAL WORLD LEARNING

As we discussed in Chapter I, students' central experience of the *MicroSociety* program is their work in their ventures and agencies; what they take from the program derives largely from what they experience and learn on their jobs. In this chapter, we report on: 1) students' engagement with the *MicroSociety* program*;* 2) what they report they are learning from their work in their ventures and agencies; and 3) what specific aspects of their job experience contribute to positive outcomes. We found that students across the board greatly enjoyed participating in *MicroSociety* and that their sense of accomplishment in the work of their ventures and agencies reinforced their engagement in their jobs. This chapter begins with a vignette of a *MicroSociety* agency that provides an outstanding example of "real world" learning for students "on the job." Following the discussion of this vignette, we present five broad findings about student outcomes related to real world learning in *MicroSociety*.

True Health Care Services

Ms. Wells, the Micro Site Coordinator at Taylor Middle School[11] told this story in response to the question: What do you think are the characteristics of a successful venture or agency?

"I like the Nurse's venture, "True Health Care Services" because the students take it quite seriously." Ms. Wells explained that this healthcare agency offered basic first aid, massages, and health counseling to students. She recounted, "One day, the nurse had to leave early and the kids asked me if they could still open." Although Ms. Wells was reluctant, the students convinced her that they were "up to the challenge." She directed them to "come get me if you have any students that come in with a real injury."

"Sure enough, a student came and told me that someone had fallen." Ms. Wells chuckled as she described her own nervousness about dealing with the injury. "On my way to the nurse's room, I tried to remember the procedures for treating an injury. I was worried because this is not an area I normally handle." But by the time she

arrived, the students, wearing their lab coats and stethoscopes, had already begun the in-take process. They were asking the injured student questions and carefully recording her responses. With Ms. Wells' permission, two students donned gloves and competently flushed the wound; another applied antiseptic and a bandage; another wrote a pass for the student to return to class. The final detail was to write the incident in the log book, so that all the pertinent information would be available when the student's parent was called.

Ms. Wells marveled at the students' competence, "In ten minutes, the injured student was on her way and I hadn't done one thing. Our kids knew exactly what to do! I love that! Without any adult intervention."

Ms. Wells' account offers an exemplar of "real world" learning in *MicroSociety*. In it we see confident students seizing an opportunity to demonstrate their knowledge and ability. They complete the necessary paperwork—handling the procedures of their healthcare agency with ease. Likewise, they are facile at cleaning and dressing a wound. The students work as a unit, each assuming responsibility for some step in the process. Their investment in a job well done is palpable in Ms. Wells' story. Just as obvious is Ms. Wells' pride in her students' initiative and competence.

The story exemplifies *MicroSociety* program developers' belief that the experience of creating and running a miniature society gives students opportunities to develop real world skills. In their ventures and agencies, students try on new and meaningful work roles; they develop important competencies as they undertake real world tasks related to their ventures/agencies; and they learn about the culture of employment as they plan and problem solve with their peers.

Further, Ms. Wells, in her account, celebrated students' seriousness of purpose, their ability to find solutions to real world problems, and their pride in a job well done. *MicroSociety* program developers believe that as students assume more responsibility and authority in their ventures and agencies and in the governance of their societies, there is a shift in the power relationships

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[11] Pseudonyms for schools and people are used throughout the report.

between teachers and students. Ms. Wells recognized and responded to students' desire to take charge. Here we see the potential of *MicroSociety* as an impetus for cultural change in schools. As teachers witness their students' resourcefulness and sense of responsibility, they become more willing to cede authority to students, not only in *MicroSociety*, but in other aspects of school as well.

This tale of student autonomy and know-how was the result of careful planning by Ms. Tyler, the school nurse who had prepared her students for this moment with lessons on first aid and health room procedures. Ms. Tyler explained that her objective was "to encourage the kids to consider the health field. We discuss that you can care for and help people, that you might not make a lot of money." She had taken her students to the health center where she had once worked. There, they interviewed staff about their jobs, learning about both the services provided and management of the center. Students had also visited a local medical museum. Ms. Tyler explained that her approach was to help everyone learn the skills necessary. Students had role-played probable and improbable incidents; they had tended wounds and offered other health care services under the watchful eye of the nurse and received feedback on their work. Ms. Tyler explained, "Now I'm basically here for questions and to help balance the books. The manager directs everyone and all of them have specific jobs, but they switch around so everyone knows everyone else's job. They feel good about what they do and feel it's important. Some of what we do is console; when students come in we talk with them and make them feel good."

In the remainder of this chapter, we report on students' engagement with *MicroSociety* and what they reported they are learning from their work in their ventures and agencies. Our research found that students love *MicroSociety*. They look forward to it and take pride in the work that they do in their ventures and agencies. Further, students reported that the program is preparing them for the challenges they will encounter in adulthood and that they are developing specific skills that are useful now as well as in the future. We then turn to examining what accounts for these positive outcomes. What features of ventures and agencies must be in place in order for students to reap the desired benefits of the program? We found that there is wide variation in how ventures and agencies are organized, in the work that students actually perform, in the opportunities that they have to work together as a group to plan, solve problems, and improve

their products and services. In this chapter, we discuss what program developers and school staff can do to ensure the best possible on-the-job experience for all students.

Finding 1: Students like Micro.

Students were glad that *MicroSociety* was in their schools. Their appreciation shone in the focus group interviews and was corroborated in the survey data:

- In the student focus groups conducted during the third year of research, each and every one of the 62 students interviewed had positive things to say about *MicroSociety*;

- In 2002, 88 percent of students responding to the student survey reported that they "looked forward to *MicroSociety*" and 79 percent agreed with the statement that "Micro is one of the best things we do in school.

Motivating students was a key reason why school staff voted to bring *MicroSociety* to their schools. In our interviews with them, teachers and administrators repeatedly described *MicroSociety* as "a motivating tool" and said that "it contributes to making kids want to be here." This assessment appears justified. Quite a number of students reported that they found school boring whereas *MicroSociety* was something that they genuinely looked forward to.

Although students offered a variety of reasons for liking *MicroSociety*, in most cases their appreciation boiled down to pride in their work on the job. Some typical comments from students follow:

I like being able to do my job right. I like making what people ask me for.

It's really good when you see someone walk away with something you made and they are happy about it.

I was proud when I was elected president. At first people didn't think we were doing much, but every meeting we get things done, and now they have a greater appreciation for it.

What makes me feel good is that most people respect me and the people who work in my venture.

Making laws, kids look up to you. Little kids told me I was good for trying to help them get the vote.

These comments demonstrate the high level of commitment many students felt toward their work. Further, they suggest that *MicroSociety* contributes to the development of a work ethic—still another goal for bringing *MicroSociety* to their schools mentioned frequently by teachers and principals. In summary, kids love *MicroSociety* because they feel that the work of their ventures and agencies is important. Their sense of accomplishment makes them proud and this reinforces their positive feelings toward *MicroSociety* and their engagement in their work.

This positive finding about student engagement is consistent with quantitative data showing a substantial improvement in attendance in three out of four Florida schools after the introduction of the *MicroSociety* program. The bar graph below represents the findings of a pre-post comparison between the years 1997-1998 and 2001-2002 on the percent of students who were absent 21 or more days. This percentage declined in three of the four schools. Looking across the four schools, the results of this pre-post comparison of mean attendance measures showed that absenteeism did in fact decline from 10.7 percent to 8.5 percent.

Decrease in Absenteeism
for Florida Schools

Percent Absent 21 or More Days

ABSENT 97-98

ABSENT 00-01

SCHOOL

note: insufficient data for two Florida schools for inclusion
* School pseudonyms are used throughout this report.
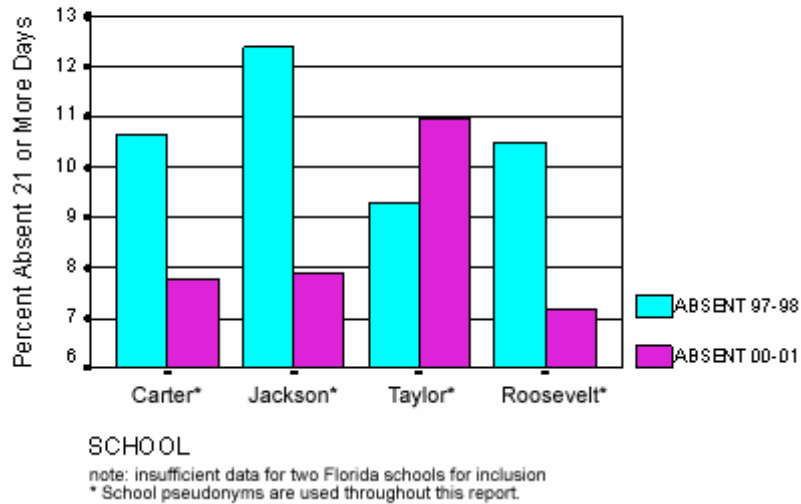
Finding 2: Students judged that what they were learning in *MicroSociety* would be useful to them as adults—in their jobs and in their civic participation. They reported that they often talked with their parents about their experiences in their *MicroSociety* jobs. These conversations reinforced students' perceptions that *MicroSociety* was preparing them for their futures.

Do students see *MicroSociety* as helping them learn how to become contributing adults? Certainly this is a goal of program developers. And the overwhelming majority of students believed that their work as bank tellers, business owners, news reporters, musicians, and zoo managers was getting them ready for adulthood.

- 88 percent of students responding to the 2002 student survey responded affirmatively to the statement that "what I learn in Micro will be useful to me when I'm an adult;"
- 85 percent confirmed that "in Micro, I gain the skills I will need to get a job when I'm an adult;"
- 81 percent confirmed that "in Micro, I learn what I need to know to be a good citizen."

In our interviews with them, students emphasized connections between what they were doing in *MicroSociety* and what they imagined they would do as adults. Many remarked that their work in their ventures and agencies prepared them for future employment by showing them *"how it will be when you grow up," "what your job will be like,"* and *"how to do business in the real world."* Students commented that by participating in *MicroSociety* they "*see what jobs are out there*" and that *MicroSociety* "*helps you narrow down what you want to be when you grow up. You can switch jobs and try different things in Micro and see what you might like to do.*"

Interviews with teachers and students indicated that parents reinforced students' belief that what they were learning in *MicroSociety* would be important to them in the future. Overwhelmingly, students reported that their parents thought that *MicroSociety* was "neat." Interestingly, many students also told us that they talked to their parents regularly about what they were doing in *MicroSociety*. A principal explained, *"At a time when there are many stresses on families, Micro offers a point of connection. I hear all sorts of stories from parents about what Micro is doing for their kids. It's changed talk around the dinner table."* Below are some comments by students about their parents' interest in and appreciation of *MicroSociety*:

> *My parents are so glad I'm getting experience about real jobs. We learn about interviewing and then we don't show up unprepared. They think it'll be good for my adulthood job.*

> *When school first started my mom kept asking me every day when is Micro going to start. I kept saying 'I don't know Mom, I'm just in first grade.' She really wanted it to start fast and was excited for my first job. Now we talk almost every night about what I did at my job. She thinks CNN (the student news) is great.*

> *My parents think it's great life experience.*

> *My parents think it's good to learn about taxes, and money and things like that.*

> *They think it's a good idea because it's something to prepare you for the future. I see now how my parents have to work and to pay for everything.*

> *My parents think it's fun and we get to learn how the real world works. How to do things the right way and not mess up. They ask about it a lot and are impressed with it.*

MicroSociety offered parents an easy point of connection to children's experiences at school and schools a natural bridge for building closer relationships with families. However, our research in

schools indicated that capitalizing on the program as a catalyst for greater parent involvement is something that principals and teachers are more likely to undertake when they have addressed more basic implementation issues.

In addition to believing that *MicroSociety* is preparing them in a general way for adulthood, a substantial majority of students (71 percent) reported that the program helped them to develop specific real-world skills, including time management, problem solving, and getting information they need. (See Table below.)

Table: Real World Skills in *MicroSociety*	2002
In Micro, I learn how to organize my time.	71%
In Micro, I learn how to solve problems.	71%
In Micro, I learn new ways of getting information I need.	71%
In Micro, I learn how to plan projects.	52%

However, fewer students (52 percent) reported that they were learning how to plan projects. The qualitative data suggest that the reason for this is that, in the early years of implementation, teachers establish ventures and agencies based on their own interests and hobbies and assume the primary role in planning the work. Later, as teachers become more comfortable with new roles for themselves and their students, they hand over to student managers the responsibility for continued planning of ventures that were originally initiated by teachers. This is a point that we will return to later in our discussion. The survey data suggest that approximately half of the students (52 percent) across the 14 schools were in ventures and agencies where teachers had begun to cede leadership to students.

Finding 3: The *MicroSociety* model is implemented differently in each school. A few key ingredients contribute to shaping a program in which students reported that *MicroSociety* is preparing them for adulthood and helping them to learn the real world skills of problem solving, time management, and research. We found these ingredients to be:
   a. **opportunities to participate in a thoughtful job selection process;**
   b. **opportunities to initiate, plan, manage, assess, and reflect on how to improve the work of their ventures and agencies; and**

c. opportunities to govern.

a. <u>Opportunities to participate in a thoughtful job selection process;</u>

Students who participate in a rigorous job selection process were more likely to reap the benefits of real world learning. Not surprisingly, schools handled job selection very differently. For a few schools, start up of *MicroSociety* was quite difficult. These schools struggled to create enough attractive jobs to motivate students to take the job application process seriously. Unemployment was high and the Crime Stoppers (a society's "police force") dealt with many cases of job truancy. In other schools, there was not a job selection process in place; students were automatically assigned to the venture/agency of their classroom teachers. (This was most often true, and probably appropriate for children in the primary grades. However, we also observed it in the upper elementary grades.) In still other cases, job selection was cursory; students listed their top three job choices and were assigned to a venture/agency. Responses to the 2002 student survey reflect this range of job search practices:

- Eighty-three percent of all students responding to the survey reported that they had "a choice about my job;" 79 percent reported that they filled out an application; approximately 60 percent reported that they interviewed and wrote resumes for their jobs.

- However, responses to these questions varied greatly across schools. In one school, every student said they had interviewed for their job, while in another school only one in three students had interviewed. In one school, almost every student wrote a resume; in another only one in five wrote a resume.

Buchanan Elementary School provides an example of a highly effective job selection process that offers students opportunities to explore and consider their work options and then to make a case for why they are excellent candidates for the jobs they want.

> *At Buchanan Elementary School, the Micro Coordinator prepared a classified ad section for the school newspaper. Students took the ads home, along with three job application forms. In consultation with their parents, they selected three jobs that were*

interesting to them and filled out forms for their first, second, and third choices. The
Micro Coordinator reviewed all of the forms and, based on her knowledge of the
students and the jobs, identified children that she believed could use some job
counseling—perhaps because they were going after the same jobs over and over again
or because they were not setting their sights high enough. She held one-on-one
conferences with these students.

In the meantime, Buchanan students had the opportunity to visit ventures and agencies
where they were applying for positions to learn more about the jobs available. Students
interviewed for their positions and these interviews were taken quite seriously. In fact,
students in the video venture had capitalized on their peers' desire to make a good
impression. This venture videotaped mock interviews. Students could have themselves
videotaped, then review the tape and receive feedback from peers. While some students
were preparing for their interviews and polishing their resumes and application forms,
other students were developing questions that they would ask prospective employees in
interviews. In addition, several ventures had devised tests and auditions as part of their
interview process. The principal reported that a goal for the next academic year was to
have every student develop a portfolio of their work on the job which would become
part of the materials they presented for their next job application.

b. Opportunities to initiate, plan, manage, assess, and reflect on how to improve the work of their ventures and agencies

Success is when students generate their own learning. They're starting to do this now.
You can see it with our ventures. When we started [Micro], ventures came from the
teachers—from their hobbies and interests. Now students are asking to start their own
ventures. That's success right there: when students are creating the ventures.
(Principal)

Our research showed that students who served as managers in their ventures and agencies had a more positive experience in *MicroSociety* than those who did not. The survey data show that while 82 percent of students report that "students manage some jobs in *MicroSociety*," 67

percent report that "students manage my job." As we will see in the next chapter, managers were more likely to engage in high-level literacy and numeracy tasks. They were also more likely to report that they were learning problem-solving skills, time management, and how to work in groups. One student manager talked about what she liked about her job:

I like being able to go there and having people ask me questions and I am able to answer them. I like keeping up with all the stuff that I have going on. I like when people give me good ideas.

In our visits to schools, staff recounted stories about students who had blossomed in their *MicroSociety* jobs. Typically they described a student who was known for being difficult, but who had assumed responsibility and leadership in *MicroSociety*. A teacher explained this phenomenon:

Some students who may not be successful in academics can be successful in Micro, e.g., leadership skills. Then maybe they are empowered to be able to reapply themselves back in the classroom. I've seen changes in specific students—anecdotes of those who rose to the occasion in Micro to take on leadership and management roles.

One such student was Kevin, an eighth grader in a middle school we visited.

Kevin works in the venture, Woodshop. A mediocre student, Kevin was known as a troublemaker to his teachers and was not promoted to high school last year. But this year, according to his teachers, Kevin's behavior is different—more responsible. Both Kevin and his teachers think that his experience running Woodshop in Micro had something to do with it. There he has shone as a leader.

In the student focus group interview, Kevin was thoughtful, articulate, and polite. He was a mature young man who seemed at ease with being in the eighth grade for a second year. He talked seriously about his own job experience, offered insights about

what circumstances contribute most to student learning, and the potential of MicroSociety to effect important changes in school culture.

As a manager of the woodshop, Kevin likes "being appreciated by the customers." High quality products that other students want to buy are a point of pride for Kevin. Being a manager also has its rewards. "Managers are looked up to… and people give them their ideas." Kevin described the different jobs that are part of the woodshop. "Most people are in production, with some in sales and advertising." Production is popular and students must pass a state test to use the machines. Kevin said that he chooses "those kids who got the highest grades on the test" to be in production. He reflected, "Maybe others will be dissatisfied enough to want to work for a better job."

Kevin had an interesting perspective on how students learn in Micro and what constitutes success. He argued that, "The most successful businesses are the ones that are struggling." In those ventures students learn how "the world works and what you need to think about in order to be successful." He also explained that students had eliminated some ventures and created new ones. They found that "not all the craft ventures produce items that people really want to buy." Kevin saw this weeding out of unprofitable ventures as important learning for him and his peers.

Kevin offered these perceptive comments about teacher/student respect and MicroSociety*: "A lot of teachers teach you at a more adult level, especially when you're in a manager's position. When you're a manager, you feel you should be more mature because you're involved in important endeavors. But in terms of* MicroSociety*'s effects on teacher/student relationships back in the classroom, Kevin was circumspect: "Most of our teachers don't talk about Micro much or involve it in our classes. It's sort of like a separation of church and state. Teachers definitely treat us differently during Micro (with more respect)."*

Many teachers praised the lessons about cooperation and group effort inherent in *MicroSociety* and some pointed to the spillover of contribution to classrooms. One teacher noted: "Students

are under more pressure to cooperate in Micro. Everything will be a shambles if they don't work together. They learn how to stay calm, keep things moving and be organized. Managers and other leaders in Micro tend to bring some of these same skills and attributes from Micro into their classes." Likewise, students emphasized learning to work in groups as an important contribution of *MicroSociety*. They valued the collective effort necessary for things to work smoothly in their ventures and agencies. Many students said that they had learned how to listen, how to cooperate, and how to offer leadership. Typical comments included:

We learn how to work together and to try not to be the boss and take over.

You have to do your work in Micro and in class. In Micro it's good because it's fun to depend on people and sometimes you don't want to do it but that's part of what being responsible means.

I learn how to listen.

We can learn to work in businesses with other people.

In Summary

Overall, our qualitative and quantitative data combine to show that students find that their participation in the miniature society of *MicroSociety* is an exciting and worthwhile experience which contributes to the development of many real world skills that they need currently and will need in the future. The extent to which students benefit depends on whether the *MicroSociety* program in their school is organized so that they have ample opportunities to 1) participate in a meaningful job selection process; 2) initiate, plan, manage, assess, and reflect on how to improve their work in their ventures and agencies; and, 3) govern their societies.

CHAPTER III: ACADEMIC CHALLENGE

As we stated in the introduction to the report, *MicroSociety* aims to positively affect students' critical thinking skills, their knowledge about such areas as civic institutions, government, and the economy and the development of sophisticated literacy and numeracy skills. At the request of program developers, our research focused on literacy and numeracy. At a time when American schools are under intense pressure to produce high student test scores, *MicroSociety* program developers wanted to know if and how the *MicroSociety* approach enhanced traditional academic skills in these two areas. Important premises of the *MicroSociety* approach are that: 1) as students use reading, writing, and math skills in their jobs, they will achieve greater fluency in these skills and 2) students' jobs will challenge them to develop new and more sophisticated literacy and numeracy skills.

Because of the limitations of the test score data available to us, we were not able to make a definitive assessment of the degree to which participation in the *MicroSociety* program enhances schools' capacity to improve student achievement as measured by standardized tests. (There is encouraging data from Florida about the *MicroSociety* approach and standardized test scores that we report later in this chapter.) However, despite these limitations, this study has made important contributions to establishing how and under what circumstances the *MicroSociety* program works to improve student learning. Our research was designed to investigate the ways in which students use reading, writing, and math skills in their jobs as a first step to understanding the causal relationships between students' participation in *MicroSociety* and improvement in these skills. Overall, we found considerable variation in the degree to which students' jobs challenge them to use and improve their reading, writing, and math skills. This is not surprising, given that schools were in an early stage of program implementation at the time of our research. Importantly, the research offers clear direction to program developers and school staff about how to strengthen the *MicroSociety* program as an intervention aimed at improving students' literacy and numeracy skills.

In the remainder of this chapter, we present our findings, drawn from both qualitative and quantitative data, about the academic challenge of *MicroSociety* ventures and agencies. Our first

set of findings concerns the overall levels of academic engagement and rigor that students report and that we observed. The second set of findings discusses the variance we found across jobs within a given venture or agency, across different ventures or agencies, and across schools. But first we establish benchmarks for what we mean by "academically challenging" by offering profiles of two exemplary ventures which were academically challenging settings in which students were using and refining their literacy and numeracy skills.

<div align="center">Venture I: Sensational Science</div>

"Okay, everyone knows what they've got to do, so let's get busy." Those simple instructions came from Allison, the manager of Mrs. Abrams 4th grade venture "Sensational Science." She and her fellow classmates were putting the finishing touches on their plan for opening a Petting Zoo during Market Day on Friday.

Everyone was busy with last minute details. Randi, Luis, Derrick, Jannette, Cleo and Cheryl headed to the six stations set up in the classroom, each with a different animal— a tortoise, a rabbit, a gerbil, an iguana and a snake—in their cage or case. Behind them were posters that had pictures of their animals, and neatly hand printed notes about their animals' natural habitats, the types of food they eat and other important facts.

Jannette explained how she found all this information about her tortoise. "We have an encyclopedia that I used to look up some basic facts and then I went on the Internet and found some cool websites, like kidspets.com. Each of us had to read a whole book on our animal as well and write a book report so we would know what were talking about. The principal let us print our pictures on the color printer and then I pasted it on the poster. See how straight it is, I even used a ruler and a protractor to measure the right angles, and marked my paper before I glued it," she said proudly.

Once all the stations were fixed, Allison called all the other students together to the center tables and began to lead a discussion on their upcoming Market Day plans. She asked if everybody was ready for the kindergartners, who would be their first

customers. "What if they all want to see the same animal? What are we going to do?"
Luis asked. "Yeah and what if they're scared of the snake and the iguana?" added
Randi. "I was at first and I'm a lot older," she said. Together with their teacher, these
students worked through these "what if" scenarios. They also took the time to plan for
how they wanted to talk to their audience. Allison had everybody rehearse their parts
and by the time the hour ended, everyone couldn't wait to open their Petting Zoo at
Market Day.

Reading and writing were central to "Sensational Science." Students had a variety of opportunities to develop important and nuanced literacy skills. To prepare for the petting zoo, students conducted research on a chosen animal; they used reference books as well as the Internet as sources of information. Throughout their preparation, they talked with their teacher about the visitors to the zoo, planning their presentations around what they thought would pique the interest of younger children. They deliberated about what information they should emphasize in their oral presentations and what should appear on advertising posters. They planned and rehearsed how they would handle the logistics of opening day.

"Sensational Science" is an exemplar of academic challenge in *MicroSociety*. It underscores the power of the model to produce rigorous, academically rich learning experiences that are also fun, engaging and profitable—both in terms of capital and learning. Student motivation and focus increased with the pressure of performing a service for a specific audience: members of their community. Students wanted to create high quality products for their peers—products students would understand and appreciate. Not only did the students in the venture learn in the process of developing their products, they were concerned with what their kindergarten customers would learn. Students in this venture participated in serious and motivated research while also culling the most salient and interesting information for their peers. This venture allowed students to consider important elements of literacy—a text's interaction with the reader and speaker's interaction with the audience. Working with, and for, other students pushed students to learn in new and dynamic ways.

Venture II: Kids' Kitchen

In the venture, "Kids' Kitchen," students huddled around several computers. They used desktop publishing software to type in recipes and format the pages for their cookbook. Students' mathematical thinking was evident in their recipes. Some recipes had clip art illustrations of the proportions needed. The students had been working on their cookbook all term and were just about finished.

One student explained her role in the venture, "Oh, my job is editor and so I help to make sure that our cookbook looks the best it can before we print them. We've been putting our recipes in all semester and we are just about ready to publish it and sell them at the Super Micro day."

Another discussed her reasons for choosing "Kids' Kitchen" and what she was learning on the job, "Well, I signed up because I like cooking with my mom. We make recipes for all sorts of things—oatmeal cookies, macaroni and cheese, pizza. My recipe is for banana bread. My mom and I make it all the time. I practiced at home; … in our venture we choose recipes that we like and that aren't too hard to make and then we figure out all the ingredients and we write them up so they're all like math problems— but fun ones. I learned more about fractions and proportions in this venture than I do in my math class because we can practice on real things."

"Kids' Kitchen" offers a good example of how ventures and agencies potentially offer the opportunities for application of mathematical skills that go beyond the computation that accompanies *MicroSociety* currency transactions. As they created their cookbook, students had many opportunities to practice a wide variety of mathematical skills. They calculated proportions, measured, and considered how to price their product. The sophistication of the mathematical skills could also be varied based on the developmental level of the student. A notable component of this venture was that the process emphasized audience reception—how others would like their recipes, if they were readable and easy to follow, and if the amounts of various ingredients were correctly balanced. Students were able to connect how their understanding of math affected others in this community.

Student Use of Reading, Writing, and Math in their Jobs

Finding 1: A substantial majority of students reported using reading, writing, and math skills in their ventures and agencies; somewhat fewer reported that reading, writing, and math were important aspects of their work. However, considerably fewer reported that they needed to read and write well in order to be successful in their jobs which suggests that there is considerable variation in the degree to which students are encountering challenging literacy and numeracy tasks in their jobs. Observations of the miniature societies in eight schools support this finding.

On the survey, students were asked whether they used reading, writing, and mathematical skills on their job, whether the skills were important aspects of what they did in their jobs, and whether the skill competence was important to success on the job. The table below outlines students' views on the employment of the skills in their jobs.

Use of Literacy and Numeracy Skills

Reading		Writing		Math	
Use reading on Job	*59%*	Use writing on the job	*71%*	Use math on Job	*64%*
Reading important	*55%*	Writing important on job	*61%*	Math important on job	*60%*
Need to read well to do job well	*48%*	Need to write well on job	*49%*	Need to do math well on Job	*56%*

Three-fifths of the students surveyed reported using reading on their *MicroSociety* jobs. The numbers were higher in relation to their use of math, and higher still concerning their writing skills. Slightly more than half of the students agreed that reading was important to their work. Three-fifths said that this was also true for math and writing. About half of all students said they needed to be able to read and write well to be successful in their *MicroSociety* jobs and roughly three-fifths concurred with respect to math.

Test score data from Florida suggest that opportunities to apply reading, writing, and math skills on the job in their miniature societies may make a difference. Data on test results for the Sunshine State Assessment test were obtained in the form of Mean National Percentile Rank (MNPR). These data were for the fifth grade except for the Powell Middle School, for which sixth grade data was used since there were no fifth grade students. We found a sizeable and statistically significant increase in test performance in both reading and math for all six schools. The bar graphs below summarize the change in test scores for math and reading between 2000 and 2001. While some of these gains are larger than others, the consistency of the gain across the schools is striking.

Increase in Reading Test Scores for Florida Schools
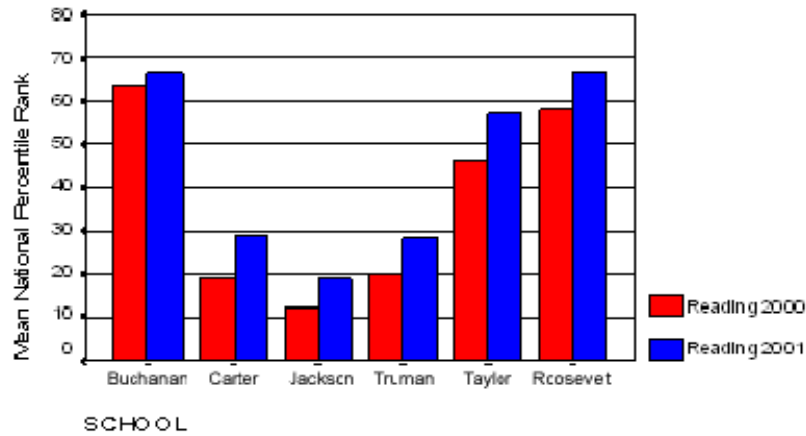
Increase in Math Test Scores for Florida Schools
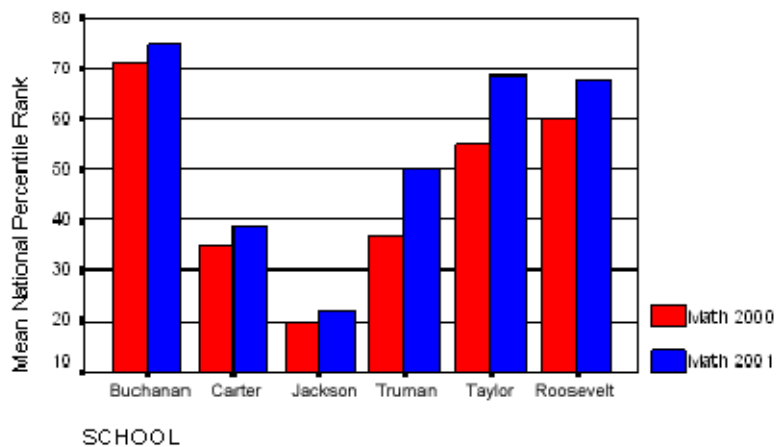
Finding 2: The following factors appear to be important influences on the academic challenges students experience in their jobs:

> **Job related factors:**
>> a) **Kind of venture/agency**
>> b) **Student job responsibilities**
>
> **School level factors:**
>> c) **Principal leadership**
>> d) **Grade level organization**

Below we discuss each of these factors.

Job related factors:

a) Our interviews and observations suggest that, at this early stage of implementation, it appears that teachers are more easily able to incorporate challenging academic content in certain kinds of ventures and agencies.

Observational data suggest that teachers more easily incorporate challenging literacy tasks into government, performance, and service-based ventures/agencies. For example, students who worked in the courts, on newspapers and magazines, in theaters, and in the legislature had access to a broader range of writing experiences. *"Half the time I'm writing,"* one student who is a legislator told us. *"I write on the board all the time because I'm the Speaker of the House*." One judge in another school commented that, "*I have to write referrals and letters if people don't serve their punishment [and] I have to proofread things for lawyers*." It is possible that agencies in general have a stronger academic content than ventures because teachers are more comfortable with the subject matter of service agencies than that of businesses.

If teachers have little prior experience in the business world, it is difficult for them to find the appropriate entry points for literacy and numeracy skill development. For example, there were food ventures in all the schools we visited. In fact, students frequently reported that these were the most popular ventures at their schools. However, there was not strong evidence that these

ventures built literacy skills into their work, apart from the most fundamental activities such as making signs with prices on them. Although there was great potential for sophisticated math problem solving in the pricing of food items and preparation of food, these opportunities were infrequently capitalized upon.

b) Data from the student survey, interviews of staff and students, and observations of ventures/agencies at work indicate that student managers were more likely to report that they used reading, writing, and math on the job and that these skills were important to their success than their non-manager counterparts.

The table below, taken from student survey data, illustrates the differences in job experience for student managers vs. non-managers.

Academic Richness experience	Student Managers	Student non-Managers
Use Reading on Job	59%	49%
Need to read well on job	52%	37%
Use of Writing on job	74%	61%
Need to write well on job	51%	37%
Use of Math on job	67%	53%
Need to do math well on job	60%	47%

Our focus group data confirmed this disparity. Indeed, student managers were aware that their positions in *MicroSociety* afforded them a different curricular experience. As one manager told us, "*We get treated better, get paid more, [we] get more attention. Other kids are learning different skills but I am learning their skills plus other one*s." Another manager added, "*In my food venture, they learn how to make food and sell it, but I also learn a whole bunch of stuff like payroll, management*." A bank manager remarked that, "*[other students] feel like they're on the bottom of the chain. That's kind of how it is. A person who works at Publix [a grocery store] won't learn as much as the person at the bank. Other students don't feel as well known.*

Managers are looked up to." Likewise observations of ventures and agencies revealed substantive differences in the work of managers and non-managers.

School level factors:

a) Data from interviews of school staff, MSI staff, and *MicroSociety* trainers as well as school observations suggest that students were more likely to have academically rich experiences in their jobs when principals made academic challenge a priority and provided guidance and support to teachers about how to achieve it.

As we reported in our Year Two Report, *Capitalizing on MicroSociety: Making the Most of Whole School Reform*, school leaders had differing goals and expectations for the program's contribution to their schools and students. Some principals emphasized the value of the program for increasing student motivation and enthusiasm. They looked to the *MicroSociety* program to improve students' attendance, attitudes toward school, and behavior. Other principals believed in the program's potential to improve student achievement. Some of the principals in this second group recognized that increased student learning would not occur unless there was close attention paid to making students' experiences in their miniature societies academically challenging. These principals directed teachers to incorporate academic skill building in ventures and agencies. They provided support to teachers and monitored students' work. As one principal in just such a school told us,

> *I asked the staff to write up a plan for their venture. To do this they had to go back and read certain documents and then I'd go through the proposals and I'd ask, 'Where is the reading? Do I see reading? Who's reading? Are the employees reading? Where's the math?' And I'm asking them that so they [teachers] know, 'I have to do this; kids need to do these things [in their jobs].' So that common focus has helped us come together a great deal as a unit. It has actually bonded us and given people intervention strategies they might not have had.*

Without this kind of direct intervention on the part of principals, ventures and agencies were more likely to be academically weak.

b) Data from interviews of students and observations of ventures and agencies suggest that elementary grade students (K-5) had both a greater number and higher quality opportunities to read, write, and compute in their ventures and agencies than students in middle grades (6-8).

In focus group interviews, elementary grade students more frequently reported that they were engaged in academic tasks in their miniature societies.

W*e also have to read 10 books for our Micro jobs.*

We read about computers because that is what we mainly do," and

In Court I have to read books …Sometimes I read books to other people in Court or other kids read them out loud.

While some middle grade students also reported that they did substantial work in reading, writing, and mathematics, it was also the case that there were numerous instances in which students said that the math or reading or writing that they did was "easy."

This tentative finding may be in part due to the developmental concerns of middle grade students and their teachers' perceptions of what they need. By definition *MicroSociety* is about the creation of a new miniature society; a society that replicates the types of work and responsibilities that the larger world offers adults. By and large, elementary-aged students are still developmentally at a place where fantasy play figures into their social relations with their peers. They enjoy "playing" adult roles. In contrast to elementary-aged students, middle grades students are focused on peer relationships. They are working to define themselves as separate from adults. Middle grades teachers are sensitive to their students' developmental concerns. As a result, both middle grades students and teachers may emphasize the social aspects of participating in a miniature society and may play down the cognitive aspects.

In Summary

Overall, we found that significant numbers of students report that their *MicroSociety* jobs involve the use of academic skills (reading, writing, and math). However, the level of academic challenge is variable, with approximately half of the students reporting that they needed "to do these activities well" to be successful in their jobs. This finding is consistent with our observation that there is considerable variance in the level and complexity of academic activities involved in different jobs across schools, across different ventures and agencies, and even within an individual venture or agency. Principals play a crucial role in ensuring that academic challenge is a priority in ventures and agencies. Our qualitative and quantitative data indicate that students who are managers in their ventures and agencies are more likely to engage in more sophisticated literacy and numeracy learning in their miniature societies. Our qualitative data suggest that students in the elementary grades are more likely to encounter heftier academic challenges than are students in middle grades. These findings offer clear direction for MSI program developers and school staff as they work together to refine and strengthen program implementation. In the following chapter, we make recommendations that draw from our research.

CHAPTER IV: CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Student Experiences and Outcomes

The most prominent finding of this three year research effort is that students are highly engaged in *MicroSociety* and love the program. They take pride in their work on the job and believe that what they are learning in their miniature societies is preparing them for challenges they will face as adults.

A second important finding is that the way the *MicroSociety* program is implemented in a school makes a major difference in whether students reap the benefits intended by program developers. High quality experiences in their ventures and agencies result in positive student outcomes. "High-quality" implementation of the *MicroSociety* model provides opportunities for students to:

- initiate ventures or agencies;
- engage actively in applying for and choosing a job;
- plan the work of the venture/agency and their own job;
- work collaboratively and reflectively with other students;
- participate in managing their own job and venture/agency; and,
- carry out tasks requiring high-level literacy and numeracy skills.

The next challenge for MSI program developers and school staff is to provide high-quality, challenging job experiences and to make these opportunities available to students uniformly.

The Role of School Staff in Improving the Implementation of the *MicroSociety* Program

Teachers and principals play a major role in structuring how the *MicroSociety* program is used at their schools and therefore their contributions are key to improving student experiences and outcomes. This extends to both of *MicroSociety*'s major goals for students, as presented in Chapter One of this report: 1) the development of new academic and personal skills and 2) the

building of autonomy and leadership skills, moving toward changes in the power relationships between adults and students in all school activities. Below we draw from our research findings to offer directions for strengthening the positive outcomes that accrue for students who participate in the *MicroSociety* program.

Recommendations

1. Provide support and guidance for principals as well as teachers.

Principals are key to creating a high-quality *MicroSociety* program in schools. They need to thoroughly understand the *MicroSociety* approach—particularly its emphasis on applied learning. Principals play a critical role in setting the bar for intellectual rigor in ventures and agencies and providing guidance and support to teachers about how to create and supervise ventures and agencies that offer academically challenging experiences for students. MSI staff should design a program of professional development for principals. Educators often respond well to hearing the experiences and strategies of others from within their profession. As one strategy, *MicroSociety* developers might enlist principals who have been successful to work with other principals.

2. Plan for how schools can systematically shift to offering students more opportunities to initiate, plan, manage, and assess their ventures.

During the early stage of program implementation, teachers naturally initiate and plan the work of ventures and agencies. In order to avoid teachers retaining this authority and responsibility, MSI program staff should work with principals and teachers to develop a "transition plan" for moving students into more active roles in which they assume initiative and "take charge of their learning,"

In addition, the data clearly show that student managers have a different and higher quality experience in their jobs than non-managers. Those who design the *MicroSociety* ventures/agencies, whether teachers or students, need to ensure that a higher proportion of jobs involve management responsibilities and that more students benefit from holding managerial jobs. There are a number of ways to increase management opportunities, including; designing

the ventures to include more jobs requiring managerial skills and, if necessary, having students rotate through the more challenging and responsible positions.

3. Ensure that all ventures/agencies and all jobs within them incorporate high-level literacy and numeracy skills.
The data from teachers and principals indicate that school staff may not view the *MicroScoiety* program as an intervention directly aimed at improving the academic achievement of all students. MSI staff should be persistent in encouraging teachers to be mindful of where literacy and numeracy skills can be applied in their ventures and agencies and build in ways for students to use those skills.

4. Continue to design ways to tailor the *MicroSociety* approach to make it developmentally appropriate for both elementary grade (K-5) and middle grade (6-8) students.
One of the things we observed in our fieldwork was a rather wide variance between the quality of the experiences students had at the elementary and middle school levels. At the elementary level, students readily participated in the "make-believe" world of Micro. Middle grade students viewed *MicroSociety* primarily as a creative social time and staff had difficulty establishing strong connections between ventures/agencies and academics. This observation suggests that MSI should further research this issue and also continue to refine its design and curriculum for middle grade students.

5. Develop structured assessment processes in which teams of teachers, administrators, parents, and students evaluate the overall strengths in a school's *MicroSociety* and make recommendations that build on those strengths.
Assessments should focus particularly on the academic challenges offered in students' jobs and on the degree to which students are assuming active roles in initiating, planning, managing, and assessing their ventures and agencies. Administration of the student survey developed as part of this study would provide assessment teams with excellent information about a school's progress toward full implementation of the *MicroSociety* approach.

APPENDICES

APPENDIX A: STUDENT SURVEY

This is a survey to find out how you feel about school and MicroSociety. It is not a test—there are no wrong or right answers.

First, here are some questions about you.

1. What is the name of your school? _____

2. What grade are you in? _____   3. I am (Mark one): Female_____   Male _____

4. What is your date of birth?   **Month**   **Day**   **Year**
   Write in here➜➜➜   [ ]   [ ]   **19____**

5. Which best describe you? (*Check all that apply*):
   a. _____   Native American or Alaskan Native   d. _____   White
   b. _____   Black/African-American   e. _____   Hispanic/Latino
   c. _____   Asian or Pacific Islander   f. _____   Other _____

6. What Language do the people in your home usually speak? (*Mark one*):
   a. _____   English   d. _____   Chinese   g. _____   Vietnamese
   b. _____   Spanish   e. _____   Creole   h. _____   Other _____

7. Do you: (*Mark one):*
   a. _____   Get free lunch   c. _____   Pay full price when buying lunch
   b. _____   Pay reduced price for lunch

8. I have been in this school for *(Mark One):*
   a. _____   Since the beginning of   d. _____   I have been here for longer than
                  this year   three years
   b. _____   This is my second year   e. _____   I came to this school after the
                  beginning of this year
   c. _____   This is my third year

9. I have been in *MicroSociety* for *(Mark One):*
   a. _____   Less than one year   d. _____   3 years
   b. _____   1 year   e. _____   More than 3 years
   c. _____   2 years   f. _____   I have not participated in Micro

10. What agency or business do you work in? _____

11. List your current job(s): _____

12. **Here are statements about how you *feel* about yourself. For each statement, check if you think it's Mostly True or Mostly False. Remember, there are no wrong or right answers.**

(A.) Put a "✓" next to either T or F:

		MOSTLY TRUE	MOSTLY FALSE
a.	I feel good about myself.	___ T	___ F
b.	I think good luck is more important than hard work.	___ T	___ F
c.	Every time I try to get ahead in achieving my goals, something or somebody stops me.	___ T	___ F
d.	My plans hardly ever work out.	___ T	___ F
e.	I often worry about my personal safety while at school.	___ T	___ F
f.	I would come to school even if I didn't have to.	___ T	___ F
g.	I have a responsibility to help my school be a good place.	___ T	___ F

(B.) Thinking about how you feel in <u>your classes</u>…Put a "✓" next to either T or F:

h.	I am successful in my classes because I am smart.	___ T	___ F
i.	I am successful in school because I work very hard to do my best.	___ T	___ F
j.	When I need help in class, I don't mind asking for it.	___ T	___ F
k.	I feel that what I learn in school will be useful to me when I'm an adult and have a job.	___ T	___ F
l.	I'm good at speaking up and saying what I think in class.	___ T	___ F
m.	I make suggestions that will help make things better in class.	___ T	___ F

(C.) Thinking about how you feel in <u>*MicroSociety*</u>… Put a "✓" next to either T or F:

n.	I am successful in MicroSociety because I am smart.	___ T	___ F
o.	I am successful in Micro because I work very hard to do my best.	___ T	___ F
p.	When I need help in Micro, I don't mind asking for it.	___ T	___ F
q.	I feel that what I learn in Micro will be useful to me when I'm an adult and have a job.	___ T	___ F
r.	I'm good at speaking up and saying what I think in Micro.	___ T	___ F
s.	I make suggestions that will help make things better in Micro.	___ T	___ F
t.	In Micro, I really show my teachers and friends what I can do.	___ T	___ F
u.	In Micro, my teachers and friends really see what I can do.	___ T	___ F

13. **Here are statements about you.**

Put a "✓" next to either T or F:

		MOSTLY TRUE	MOSTLY FALSE
a.	I always do my homework.	___ T	___ F
b.	I sometimes come late to classes.	___ T	___ F
c.	Not too long ago, I had to go to detention.	___ T	___ F
d.	I am often absent at school.	___ T	___ F
e.	I sometimes get into trouble at school.	___ T	___ F
f.	My parents always look at my report card.	___ T	___ F

14. **And now for some statements about your school.**
    Put a "✓" next to either T or F:

		MOSTLY TRUE	MOSTLY FALSE
a.	My teachers expect a lot from me.	___ T	___ F
b.	My teachers listen to what I have to say.	___ T	___ F
c.	Teachers encourage me to redo work until it is as good as it can be.	___ T	___ F
d.	I have opportunities to explore my own interests, talents and ideas in school.	___ T	___ F
e.	Students treat each other with respect.	___ T	___ F
f.	Students in this school are willing to go out of their way to help someone.	___ T	___ F
g.	My school is like a family.	___ T	___ F
h.	I have learned to respect people of different backgrounds in this school.	___ T	___ F
i.	In class, students often work together in groups.	___ T	___ F

15. **Here are some statements about *MicroSociety*.**
    Put a "✓" next to either T or F:

		MOSTLY TRUE	MOSTLY FALSE
a.	I work hard at my job in Micro.	___ T	___ F
b.	I look forward to Micro.	___ T	___ F
c.	It is important to me that I do my best on my job in Micro.	___ T	___ F
d.	In Micro, I gain the skills I will need to get a job when I'm an adult.	___ T	___ F
e.	I find my Micro job boring.	___ T	___ F
f.	Micro has encouraged me to read more.	___ T	___ F
g.	Micro is one of the best things we do in this school.	___ T	___ F
h.	My parents think Micro is neat	___ T	___ F
i.	In my classes, teachers talk about Micro.	___ T	___ F
j.	My teachers like Micro.	___ T	___ F
k.	The way students get picked for jobs in Micro is fair.	___ T	___ F
l.	I can start a Micro venture or agency by myself or with other students if I want to.	___ T	___ F
m.	Micro meets at least once a week almost every week.	___ T	___ F
n.	There are things for sale at the Market that I want to spend my money on.	___ T	___ F
o.	Most of the students really like of the things for sale at the Market.	___ T	___ F
p.	I participated in writing the laws of my school's *MicroSociety*.	___ T	___ F
q.	Students wrote the laws of my school's *MicroSociety*.	___ T	___ F
r.	Students manage some Micro jobs at my school.	___ T	___ F
s.	I can solve problems by myself.	___ T	___ F
t.	I seek help from my friends when solving problems on the job.	___ T	___ F

16. **Here are some more statements about *MicroSociety*.**

    Put a "✓" next to either T or F:

		MOSTLY TRUE	MOSTLY FALSE
a.	I can choose to apply for any job in Micro.	___ T	___ F
b.	I can move around the school during Micro to work outside of my classroom.	___ T	___ F
c.	I had a choice about my job.	___ T	___ F
d.	I filled out an application to apply for my job.	___ T	___ F
e.	I wrote a resume to apply for jobs.	___ T	___ F
f.	I interviewed for my job.	___ T	___ F
g.	I met with someone to discuss the kind of job I wanted.	___ T	___ F
h.	I talked about the job I wanted with a teacher.	___ T	___ F
i.	I talked about the job I wanted with other students.	___ T	___ F
j.	If I don't like my job, I can apply for different one at any time.	___ T	___ F
k.	The most popular job in Micro is _____		
l.	If I could pick any job in Micro, I would pick _____		

Put a "✓" next to either T or F:

		MOSTLY TRUE	*MOSTLY FALSE*
m.	In Micro, I learn how to plan projects.	___ T	___ F
n.	In Micro, I learn how to organize my time.	___ T	___ F
o.	In Micro, I learn how to solve problems.	___ T	___ F
p.	In Micro, I learn what I need to do in order to be a good citizen.	___ T	___ F
q.	In Micro, I learn new ways of getting information I need.	___ T	___ F
r.	In Micro, I have to use math in my job.	___ T	___ F
s.	In Micro, I need to rely on my co-workers ability to do math.	___ T	___ F
t.	In Micro, I need to communicate with co-workers to get my job done.	___ T	___ F
u.	In Micro, I get to see my writing published.	___ T	___ F
v.	In Micro, people read things I write.	___ T	___ F
w.	In Micro, I read things other students write.	___ T	___ F
x.	In Micro, students publish things like student newspapers, magazines, and books.	___ T	___ F
y.	In Micro, students give performances of things they write, like plays.	___ T	___ F
z.	In Micro, I have to use reading when I buy some things in the Market.	___ T	___ F

17. **Here are some statements about working in your *MicroSociety* job.**

    Put a "✓" next to either T or F:

		MOSTLY TRUE	MOSTLY FALSE
a.	On my job, I use writing.	___ T	___ F
b.	On my job, writing is important	___ T	___ F
c.	To do my job well you have to write well.	___ T	___ F
d.	On my job, I need to know how to write clearly because other kids will read it.	___ T	___ F
e.	On my job, I use reading.	___ T	___ F
f.	On my job, reading is important.	___ T	___ F

Question 17 continued on the next page

17. (*Continued*) **Here are some statements about working in your *MicroSociety* job.**
Put a "✓" next to either T or F:

		MOSTLY TRUE	MOSTLY FALSE
g.	To do my job well you have to read well.	___ T	___ F
h.	My job has encouraged me to read more.	___ T	___ F
i.	On my job, I use math.	___ T	___ F
j.	On my job, it is important to do math accurately.	___ T	___ F
k.	To do my job well you have to do math well.	___ T	___ F

18. **Here are some more statements about working in your *MicroSociety* job.**
Put a "✓" next to either T or F:

		MOSTLY TRUE	MOSTLY FALSE
a.	When we work, some students try to take over.	___ T	___ F
b.	I feel bad if I don't do my job well.	___ T	___ F
c.	If I don't get my work done or try my best, my co-workers tell me.	___ T	___ F
d.	It's important to do my job right.	___ T	___ F
e.	I work well with other students in my job.	___ T	___ F
f.	Working with others slows me down.	___ T	___ F
g.	I use a computer on my Micro job.	___ T	___ F
h.	The pay I receive for my job is fair.	___ T	___ F
i.	If I could pick any job in Micro, it would be the one I have now.	___ T	___ F
j.	I would buy the things we make in my job.	___ T	___ F
k.	We talk in my job about how we can do our job better.	___ T	___ F
l.	We made a plan in my job for the work we did this year.	___ T	___ F
m.	Students are the managers of my Micro job.	___ T	___ F
n.	I am a manager of my Micro job.	___ T	___ F
o.	For my job, some students are assigned to make sure the work we do is good.	___ T	___ F

19. **Here are some more statements about working in your *MicroSociety* job.**
Put a "✓" next to either T or F:

		MOSTLY TRUE	MOSTLY FALSE
a.	On my job, I use money.	___ T	___ F
b.	On my job, I use books and/or reading materials.	___ T	___ F
c.	On my job, I use an inventory sheet.	___ T	___ F
d.	On my job, I use email.	___ T	___ F
e.	On my job, I use the Internet.	___ T	___ F
f.	On my job, I use a word processor computer program.	___ T	___ F
g.	On my job, I use a spreadsheet or database computer program.	___ T	___ F
h.	On my job, I use a drawing or graphics computer program.	___ T	___ F
i.	On my job, I use a calculator.	___ T	___ F
j.	On my job, I use pencil and paper.	___ T	___ F

20. **What did your last report card look like?**
(Use this chart; Fill in the blank box under "Grade"):

Subject	Grade (letter or number)	Subject	Grade (letter or number)
Language Arts		Science	
Math		Social Studies	

Here are some questions about things you may have learned about. Do you know the answers to the following questions?

21. What is profit? (Check one)
    ☐ a. Cost of buying things.
    ☐ b. Interest on loans.
    ☐ c. Extra money after you pay expenses.
    ☐ d. Don't know.

22. What is income? (Check one)
    ☐ a. Money you put in the bank.
    ☐ b. Money you are paid.
    ☐ c. Money you pay in taxes.
    ☐ d. Don't know

23. What is a budget? (Check one)
    ☐ a. A plan of how you will use money you earn.
    ☐ b. A plan of how you will make money
    ☐ c. A plan of how you will borrow money
    ☐ d. Don't know.

24. What is a resume? (Check one)
    ☐ a. An application for a job.
    ☐ b. An outline of your qualifications for a job
    ☐ c. A letter about why you are interested in a job.
    ☐ d. Don't know.

25. What are the three branches of government? (Check one)
    ☐ a. Police, judges, president
    ☐ b. Government, parliament, chairman
    ☐ c. Executive, judicial, legislative
    ☐ d. President, judicial, congress

APPENDIX B: TECHNICAL APPENDIX

An important focus of the research has been to identify and measure program impacts on students resulting from their experiences in *MicroSociety*. Since this research was not able to use control groups or comparison schools, statistical analysis was undertaken to examine the impact on the students within the realms of acquiring and using self-directed learning skills and engagement with the *MicroSociety* program both in relation to societal institutions (e.g., courts, constitution writing, government) and within the context of their specific jobs.

Following the theoretical framework guiding *MicroSociety*, it was hypothesized that key impacts would entail increased use of self-directed learning and leadership skills by the students, improved quality of student and instructional communities as well as higher levels of engagement of the students with the *MicroSociety* process, both on the job and as citizens in a miniature society.

Once concrete indicators of these impacts were identified by both qualitative and quantitative research, they were measured using scales comprised of individual questionnaire items.

By combining individual questionnaire items into *scales,* it is possible to take the information from numerous items grouped around a particular area (e.g., use of self-directed learning skills). Outcome scales were developed from the individual items using both quantitative and qualitative techniques to maximize their sensitivity to potential program impacts on the students.

Since this study did not use direct measures of program implementation (e.g., control or comparison groups) it was also necessary to devise an alternative approach of measuring the extent to which students were exposed to or involved in *MicroSociety* activities. To this end, questionnaire items were combined to form scales of student outcomes that indicated ownership and control of the experiential learning process. While measures of these student outcomes are conceptually distinct from measures of implementation, we see them tied together in a causal way such that high-quality, fully implemented *MicroSociety* programs *enable* students to take charge of their learning. For example, in those miniature societies where high proportions of students initiate, plan and manage jobs, there must have been a successful implementation of the miniature social institutions that *enabled* students to practice these aspects of real world learning. In such schools, we would expect to see the strongest positive outcomes for the students. On the other hand, schools with low proportions of students initiating, planning and managing jobs—where jobs are created by teachers and students are simply assigned to them—should result in measurably lower positive impacts on the students than schools with a higher quality of implementation. Thus, while we are not directly measuring aspects of implementation, we are looking at the presence of conditions necessary for positive student outcomes

The sections that follow examine the main impacts of the *MicroSociety* program on students and identify those student experiences most predictive of measured positive outcomes.

Impact Analysis

In order to assess the above discussed impacts on students, two types of scales were constructed and analyzed: five Student Outcome scales (outcome measures) and two Quality of Implementation scales (program measures). The domains of these scales and a listing of the questionnaire item content contained in them are summarized in the Table A below.

Table A: Scale Composition

Scale:	Questionnaire Item Content
Student Outcome Measures	
Real World Skills	*In Micro…*I plan projects, manage my time, solve problems, learn new ways of obtaining information.
Quality of Student Community	*In my school…*students show respect for each other, I am encouraged to explore my interests, my school is like a family
Quality of Instructional Community	*My teachers…* expect a lot from me, really listen to what I say, encourage me to do my best
Engagement in *MicroSociety*	*MicroSociety…* is one of the best things in school, look forward to MicroSociety, I am successful in MicroSociety because I work hard
Engagement with Job in *MicroSociety*	*On the job in MicroSociety…*I work well with other students, it is important to me that I do my job right
Quality of Implementation Measures	
Opportunities for participation in miniature society	*I…*can start a venture, helped write the law, can choose any job in Micro, had a choice in picking my job, wrote a resume, had an interview for my job, help manage my job
Opportunities for collaborative, reflective on the job	*On the job in MicroSociety…*kids are assigned to make sure the job is done right, we made a plan for our work, we talk about how to make the job better, others let me know if I don't get my job done right

Looking at the above table, it is possible to understand what each scale measures. According to the philosophy of the founders of the *MicroSociety* program, real world skills (including planning projects, time management, problem solving and finding new ways of obtaining information) are key activities that should occur in the *MicroSociety* real world learning setting. The quality of student community measures students' perceptions of the school setting and whether it is welcoming, cooperative, and intellectually supportive. The quality of the instructional community gauges the students' perception of the extent to which their teachers respect, encourage and challenge them. The engagement in *MicroSociety* scale taps both the extent to which students like or enjoy Micro as well as the degree to which they absorb the connection between hard work and success. The engagement on the job in *MicroSociety* scale focuses on how kids feel they do in their own job.

Each of these outcome measures was constructed from questionnaire items selected on the basis of information gleaned in qualitative research as well as using statistical scale construction techniques (i.e., confirmatory factorial and reliability analysis).

Turning now to the program measures of quality of implementation, the participation in miniature society scale is composed of an inventory of self-reported activities (and one attitudinal item) that, taken together, are directly suggestive of a *MicroSociety* implementation with basic institutional features in place so that children can participate in civic and entrepreneurial activities that provide real world learning. The second outcome scale, the "on the job" collaboration and reflection scale, is designed to measure reflective, managerial, and quality assurance activities of the students in the context of their *MicroSociety* job. In this scale, the children are asked to report about the activities of others as well as themselves "on the job." The activities and attributes of the job experience contained in this scale are closely tied to what we see as the intended empowerment of students so that they have ownership and control of the work process rather than being told what to do and performing tasks with minimal reflection.

Findings

The relationships between the program scales and the outcomes scales were examined by correlation analysis using both zero order and multiple correlation/regression techniques. Statistically significant correlations were found in all cases, although these varied in terms of the strength of the relationship (i.e., effect size) from strong to moderately strong. These results are summarized in Table B below.

Table B Correlational Analysis Results

Scale:	Program Measure: Societal Core Experiences	Program Measure: Group Job Core Experiences
Outcome Measures	Strength/coefficient/percent variance explained	Strength/coefficient/percent variance explained
Self-Directed Learning Skills	Strong 37% (r=.61)	Moderate Strong 27% (r=.52)
Quality of Student Community	Moderate 19% (r =.44)	Moderate Weak 11% (r=.33)
Quality of Instructional Community	Moderate 14% (r =.37)	Weak 8% (r =.29)
Engagement in MicroSociety	Moderate 20% (r =.45)	Moderate 13% (r =.36)
Engagement with Job in MicroSociety	Moderate Strong 18% (r =.43)	Moderate 14% (r=.38)
All outcome scales combined	Very Strong 46% (multiple r =.68)	Strong 31% (multiple r =.56)

Table B shows the results of single and multiple correlations. Each relationship is labeled "very strong," "strong," "moderate strong," "moderate," or "weak" as a qualitative description of the strength of statistical relationship. Following this description is the percentage of the variance explained by the program scale in the outcome scale. The higher the percentage, the stronger the

statistical correlation between the two scales, or as it is often described, the more strongly the program scale "predicts" the outcome scale. Finally, the last row presents the results of the multiple correlation, which shows the strength of relationship between all of the outcome scales taken together and the program scale.

Interpretation of Results

Strong multiple correlations were found between both of the program scales and the outcome scales. The correlation between quality of implementation scale and the combined student outcome scales was *very strong.* The finding of 46% of the variance explained is a very large effect demonstrating a large connection between the implementation and the outcomes. In similar vein, the correlation between the "on the job" experience scale and the other outcome scales was *strong—*33% of the variance. Thus the participation in miniature society scale was somewhat more strongly correlated with the outcome measures than the "on the job opportunities," though both were strong predictors of outcomes. Looking at the individual scales, it is clear that self-directed learning skills appears to be the strongest outcome of both quality of implementation measures: 37% and 27% of the variance respectively. These are both strong relations indicating connections between the experiences and these outcomes. In addition, it is noteworthy that all of the correlations were of at least moderate strength, with the single exception of the association between the quality of implementation scale and the quality of instructional community.

Summary of Findings

These results show that the experiences of students on the job and in the miniature society in *MicroSociety* were linked to each of the tested desired outcomes; all were positively correlated and all correlations were statistically significant. The strongest finding was in terms of real world skills; the quality of implementation showed very strong impact on this skill set. In sum, this provides strong evidence that the implementation of the *MicroSociety* program in these CSRD schools is having the desired effects on the students.

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