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THE INTERDISCIPLINARY JOURNAL OF PROBLEM-BASED LEARNING

ARTICLE

Elementary School Entrepreneurs

Annie McMahon Whitlock (University of Michigan–Flint)

Abstract

In this paper, I describe the implementation of a project-based economics unit in a fifth-grade classroom in Michigan, titled One Hen. One Hen is a curricular unit designed to teach students about social entrepreneurship as a way for students to learn economic concepts while developing their own civic efficacy by engaging in a project where they design and run their own social business. These findings are part of a larger case study that examines one fifth-grade class's experience with One Hen and what these students learned about the economic concepts of loans and entrepreneurship. Through the authentic experiences of project-based learning, the fifth-grade students developed a more sophisticated understanding of loans and the role of microfinance in creating a social business.

Keywords: project-based learning, social studies, economics, microfinance, social entrepreneurship

You could hear a pin drop in Mrs. Rey's fifth-grade classroom as her students signed their names in careful cursive to a loan repayment contract. They were getting ready to borrow \$10 for each table group to start small businesses and had just calculated that they would need to pay back this loan with 10% interest (\$11 total). Their silence reflected their sincerity and awareness of the responsibility of taking out a loan as well as their apprehension about repayment.

These students were accepting a small business loan as part of a project-based learning unit called One Hen. One Hen (co-designed by the researcher, several classroom teachers, and curriculum developers at One Hen, Inc.) is an elementary economics unit that integrates social studies, English–language arts (ELA), and math. In the unit, fifth-grade students have the experience of running a social business using a microfinance loan. They have to design, advertise, and sell a product that addresses a community need.

Economics is the discipline of social studies that is often neglected in elementary classrooms. Some economics is taught as part of the expanding communities framework in the lower elementary grades with a focus on personal economics and basic concepts, but it is not often emphasized in the upper elementary grades even as economic themes appear in history and geography (Brophy, Alleman, & Halvorsen, 2012). Despite economics often being a required course for secondary students, many teachers feel

unprepared to teach it (Ayers, 2016). Ensuring that younger students (even toddler-aged) have instruction in economics has increased in the last few years (Finkel, 2010). Today's economic climate and financial uncertainty has many people calling for students to become more informed about money, economic choices, and how the government and economy work together in a society (Finkel, 2010). Knowledge of macro-economics (e.g., national budgets, international trade) is of critical importance in a world that is becoming increasingly global and interconnected. However, students' knowledge of microeconomics (e.g., needs and wants, scarcity, opportunity cost) is also vital to the economic and civic health of the country (and world). With excessive credit card and mortgage debt causing problems in today's economy, a call for students to become more "financially literate" about their personal wealth has become crucial (Brophy et al., 2012; Finkel, 2010; Schug & Lopus, 2008).

Learning to manage one's resources to make informed and prudent economic decisions is a critical and lifelong skill. In the discipline of economics, students can have many opportunities to make real-life applications of this content, whether these applications are to their own personal finances, their local community, or the global community. It is important that more research is done to examine how elementary-age children can make connections to economic content. This study describes what happens when teachers

use a project-based approach to provide students an authentic experience in being civically engaged while also teaching them economics content in a fifth-grade classroom. This intersection of project-based learning, civic engagement, and learning economics has potential to add another perspective to teaching elementary social studies to engage students as citizens.

The findings in this paper are a small piece of a large case study describing the experiences of teaching and learning economics through a project-based approach. There is very little research that examines the experience of elementary students as they engage in economics curricula. Day (2015) studied student learning in economics through examining student work, but the focus was on the teachers' use of inquiry in teaching economics. In this paper, I focus on the following questions: *Do fifth-grade students' knowledge and skills regarding entrepreneurship change after participating in a project-based economics and civic engagement unit in which they run their own social business? If so, how?*

Literature Review

Elementary Economics Curricula

Elementary teachers often have students start their own businesses as a way to introduce economic concepts. Economic simulations have been shown to be effective in increasing students' learning about producers and consumers, scarcity, opportunity cost, goods and services, and resources (Miller & VanFossen, 2008). Programs for upper elementary students such as Mini-Society, Children in the Marketplace, and Small-Size Economics are all experienced-based curricula to help teach real-world economic decision-making (Brophy et al., 2012). Many educators use a project- or problem-based learning approach with economics in elementary grades because of the collaborative nature of the approach and the focus on application of content. When engaging in project-based learning, students work with others to synthesize information they have learned in a content area to create a project or solve a problem that has a real-life application, and the project is often shared with an authentic audience, such as the larger community or school (Katz & Chard, 2000; Thomas, 2000). Despite holding some misconceptions about economics content in the early grades, younger students are capable of engaging in the real-life applications of economics and their connections to social studies.

Mini-Society (Kourilsky & Ballard-Campbell, 1984) shares similarities with the One Hen unit. In the Mini-Society program, students create their own classroom society and experience the issues and problems that arise from being members of this society, while the teacher leads the

class through debriefing the experience and a discussion of the problems and possible solutions. These problems are predictably economics-related, as students deal with issues of scarce resources, supply and demand, and starting a business (Kourilsky & Ballard-Campbell, 1984). Similar to the One Hen unit, students spend most of their time in the unit working independently through the experience of being members of society, and the opportunity for learning in different content areas can arise from the experience. Even though the Mini-Society program does not have a focus on addressing a community problem as One Hen does, topics such as poverty, unemployment, and inflation can come up during the experiential part of Mini-Society for teachers to discuss with students. Kourilsky and Ballard-Campbell (1984) found that participating in Mini-Society increased students' economic decision-making and positive attitudes toward school, regardless of the academic ability of the students. They argued that Mini-Society was successful because it was relevant to students' lives, and that even students with low verbal skills could be successful with the unit because the experiential nature of Mini-Society allowed these students to display other types of skills (such as reasoning and decision-making). One Hen has similar potential to be relevant to students with its focus on a community problem chosen by the students, and it features a heavy experiential component similar to Mini-Society.

Kinder-Economy (Kourilsky, 1977) is another experienced-based unit meant for kindergarten students. Similar to Mini-Society, in this program, kindergartners are introduced to economic concepts such as scarcity, opportunity cost, production, consumption, and specialization through a role-play or simulation, followed by a debriefing discussion led by the teacher. Unlike Mini-Society and One Hen, the simulations and role-playing opportunities in Kinder-Economy are not part of a larger "project" like running a society or starting a social business, due to the developmental level of such young students (Kourilsky, 1977). However, despite the young age of the students, Kourilsky (1977) found that participating in Kinder-Economy led to mastery of the economic concepts of scarcity, decision-making, cost-benefit analysis, production, and business organization, as measured by a pre- and post-test of economic concepts and compared to a control group of kindergartners. Kourilsky (1977) wrote that these results suggest that students as young as five and six years old are capable of understanding complex economic problems, but that this understanding does not move naturally through stages of development without some sort of instructional intervention in economics like Kinder-Economy or Mini-Society.

There are other economic simulations where students start businesses, such as Junior Achievement. Researchers have found that this kind of application of entrepreneurship

led to increased content knowledge in economics, as well as problem-solving and decision-making skills (Broome & Preston-Grimes, 2011). However, many of these curricula lack a focus on an essential element of entrepreneurship—the risk of obtaining a loan to have capital to start a business. In fact, some teachers may believe that students as young as fifth grade are not ready to learn about macroeconomic concepts such as loans and interest (Brophy et al., 2012).

Teaching Social Entrepreneurship

Although there are many market simulations and projects in elementary economics instruction, One Hen is unique in that the students focus on becoming social entrepreneurs. Unlike other economic simulations students experience in school, this study aims to discover what happens when students learn about social entrepreneurship and become active participants in the economy to address a societal need. “Social business” is a concept created by Mohammed Yunus (2010), an economics professor in Bangladesh. He describes a social business as one that creates a product or service that addresses a need in a specific community. Social businesses are not nonprofit organizations. Instead, they represent a “new kind of capitalism” that Yunus (2010) believes can be taught to students, possibly even in order to encourage these students to become social business entrepreneurs themselves.

Learning about social business can be one way to teach economics for civic engagement. Typical economics units that involve starting a business rarely engage students in a discussion about the reasons for starting a business, or how businesses can work to benefit society. Perhaps the assumption is that one makes profits for personal gain only, when in reality businesses may take on a bigger responsibility within a community. Civic engagement is also often taught separately from economics, such as through community service projects (Billig, 2010). There is a gap in the literature and in elementary social studies programs about economics curricula that focus on social business and social entrepreneurship. One Hen is more than just a traditional economic experience for students, and it is unique in this regard.

Methods

Curriculum Intervention: The One Hen Unit

In 2011, I developed the unit titled One Hen in partnership with a nonprofit educational group called One Hen, Inc. The mission of One Hen, Inc. is to develop educational materials that will help instill a sense of social responsibility and social entrepreneurship in students, as well as increase students’ awareness of their roles in the local and global community. These materials include children’s literature about global

topics and experiential curricula that use these children’s literature titles designed for after-school programs. I worked with the group to adapt One Hen from its original format of an after-school program into a classroom unit by aligning the unit with standards and adding assessments of these standards. I also revised the unit to incorporate the explicit teaching of social business, including small-group collaborative activities and whole-class discussion questions.

The One Hen unit begins with reading a book about Kojo, also called *One Hen*; the book narrates the true story of a boy who successfully obtained a microfinance loan of one hen in his small village in Ghana to eventually build a large farm (Smith-Millway, 2008). The story serves as an “entry event” into the project the students create, which is to obtain a small microfinance loan from their teacher to start a small business. Students work in collaborative teams to create and sell a product, as teachers guide them toward understanding of the relationship between economic concepts of revenue, cost, and profit. The students make a profit of real money and participate in exchanges with real money when purchasing supplies from the teacher for their small businesses. During the unit the students learn that Kojo’s business in Ghana helped improve his entire community, as he loaned his profits to others to help build their businesses. In this unit, the students research a community need to which to donate their profits, and decide as a class how to build their social businesses. The students choose a product that will help specifically address the community need they choose, as opposed to developing a product *only* for the purpose of making profit.

The unit is designed to be a project-based learning unit. Kojo’s story hooks the students into the project, they work in collaborative teams to design a product (and address a community problem or need), and they can publicly present their work to their school, their parents, and especially the larger community. Most of the 16 lessons are student-directed and independent. Working in business teams, students produce, sell, and manage the inventory of their business on their own.

One Hen unit content standards. The unit integrates multiple subject areas and addresses economics and civics objectives in social studies, as well as reading, speaking, and listening Common Core State Standards (CCSS) in ELA. The students also practice operations skills such as adding, subtracting, and multiplying decimals and percentages when bookkeeping and calculating interest in their small businesses. Since One Hen, Inc. had developed many of the economic concepts lessons and student learning activities in the subject areas of social studies, ELA, and math, I was able to choose standards that were closely aligned to these lessons, and then rework the unit to ensure the closest alignment possible to the standards.

The unit includes opportunities for teacher scaffolding and feedback toward Michigan Grade Level Content Expectations (GLCEs) for economics and public discourse and decision-making (Michigan Department of Education [MDE], 2007). In the National Content Standards for Economics developed by the National Council for Economics Education (NCEE, 2010), One Hen meets three standards relating to a market economy, price, and entrepreneurship. They are:

- Markets exist when buyers and sellers interact. This interaction determines market prices and thereby allocates scarce goods and services (NCEE Content Standard 7).
- Prices send signals and provide incentives to buyers and sellers. When supply or demand changes, market prices adjust, affecting incentives (NCEE Content Standard 8).
- Students will understand that entrepreneurs are people who take the risks of organizing productive resources to make goods and services. Profit is an important incentive that leads entrepreneurs to accept the risks of business failure (NCEE Content Standard 14).

Through the focus on social entrepreneurship, One Hen also targets goals for civics and civic engagement outlined by the National Council for Social Studies (NCSS, 2010, p. 90). They are:

- Understand that key practices in a democratic society include civic participation based on studying community issues, planning, decision-making, voting, and cooperating to promote civic ideals (Standard 10—Civic Ideals and Practices).
- Ask and find answers to questions about how to plan for action with others to improve life in the school, community, and beyond (Standard 10—Civic Ideals and Practices).
- Participate in a civic discussion and action about a school or community issue (Standard 10—Civic Ideals and Practices).

Teaching the Unit and the Role of the Researcher

For this project, I acted not only as a researcher but also as a co-teacher/facilitator of the One Hen unit in collaboration with the regular classroom teacher in the participating school. I modeled my role after VanSledright's (2002) study of historical thinking skills with fifth-grade students. VanSledright (2002) studied fifth-grade students' historical thinking skills after they had participated in two history units where the students conducted investigations into historical questions using primary sources. VanSledright (2002) chose to teach the history units to his fifth-grade participants himself in order to get a richer understanding of students' learning.

Setting and Participants

This project is a qualitative case study of one classroom of 29 fifth-grade students at Lanley Elementary and their experiences with the One Hen unit over the course of 16 weeks. The names of all participants and the school in this study are pseudonyms.

Lanley Elementary. Lanley Elementary is located in a suburban area in West Michigan and enrolls 425 students from prekindergarten to fifth grade. The percentage of students of color and low-SES students is well above the state average (see Table 1).

Table 1. Demographics of Lanley Elementary.

Ethnicity	Lanley Elementary	State Average
Hispanic	58%	5%
White, not Hispanic	20%	71%
Asian/Pacific Islander	13%	3%
Black, not Hispanic	6%	20%
Free or Reduced Lunch %	84%	42%

Lynn Rey, classroom teacher. I consulted the principal of Lanley Elementary for recommendations of upper elementary teachers who might be interested in being a part of this study. Co-teaching a 16-lesson project-based learning unit required a time commitment and a willingness to examine both curriculum and instructional methods with me. Lynn Rey was recommended by her principal as an ideal participant for this study due to her previous experience with project-based learning, integrated curriculum, and participation in research studies.

Student participants. I asked all parents/guardians of the students in the classroom for consent for their child to complete the pre- and post-assessments, to be interviewed, and to have their child's work from the unit used as data sources. All students whose parents/guardians had provided consent were also asked for their assent to participate in any of the activities that would be used as data sources. Twenty-one (out of 29) students participated in the study. All students in the classroom participated in the instruction in the One Hen unit.

I randomly chose 10 students as "focal students" for the study. These focal students participated in interviews conducted at the beginning and at the end of the One Hen unit. This approach is similar to VanSledright's (2002) researcher-practitioner designed study in social studies. In his study, he selected students for interviews to represent the wide range of abilities in the participating classroom. In this study, which

took place at the beginning of the school year, there were no indicators of the academic ability of Lynn's students. As such, I randomly selected seven girls and three boys for interviews.

As in VanSledright's (2002) study, classroom interactions such as whole-class discussions, small group conversations, and instruction in general were video recorded for analysis as secondary data sources. The following sections describe each of these data sources in greater detail.

Data Sources

I describe findings from two data sources: (1) a pre- and post-assessment that assessed students' economics knowledge and skills, and (2) interviews with a focus group of 10 students at the beginning and the end of the One Hen unit. Student work, my reflective memos and field notes, and my informal conversations with Lynn during the One Hen unit were used as secondary sources to further explain and support findings from the data sources.

Pre- and post-assessment of economics knowledge and skills. The pre- and post-assessments were field tested and designed to capture the students' knowledge of important economics concepts before beginning the One Hen unit and after completing the unit, and were given to all the students in the classroom as part of their regular classroom social studies instruction. The assessments measure students' knowledge of three of the National Content Standards for Economics, which aligned with many of the Michigan GLCEs that upper elementary teachers in Michigan are required to teach, as well as Common Core State Standards (CCSS) for ELA. A week before the implementation of the One Hen unit, I gave the pre-assessment to all students in Lynn's class. Although all students took the assessment, in this study, I only used assessment data from the students whose parents had provided consent (Lynn kept the pre-assessments from the students whose parents did not provide consent).

I administered the post-assessment three days before the final lesson of the unit. I chose to give the post-assessment before the unit had finished because Lynn had made the decision to extend the time for the students to run their social businesses. We had already taught all of the economics lessons in the unit, and I wanted to capture the students' economics learning soon after the instruction ended.

Student interviews. At the beginning and the end of the One Hen unit, I conducted interviews with 10 students. A week before the implementation of the unit, I interviewed each of the 10 students one-on-one for approximately 15 minutes. I asked them about what they knew about starting a business (entrepreneurship) and about their previous experiences with identifying problems and helping solve problems within the

community. A week after the implementation of the One Hen unit, I interviewed these same students for approximately 20 minutes each. In the post-interview, I asked them to elaborate on their experience with the One Hen unit. Throughout the unit, other questions were determined as important to ask students that were specific to the One Hen unit. These questions arose from interactions that went on in the classroom (for example, the students' field trip to another social business in the community). In the interviews, the students were encouraged to discuss their experiences with the unit more broadly, which included discussing what they learned about economics and how they felt about the unit in general. I asked follow-up questions based on these responses.

Data Analysis

Pre- and post-assessment of economics knowledge and skills. These assessments ask the students to state an answer and expand on their thinking to questions designed to measure economics concepts that are taught in the One Hen unit. I created a four-point rubric to analyze the students' answers. A score of 1 indicated "does not meet expectations" and a score of 4 indicated "fully meets expectations."

I analyzed these assessments much like a teacher would analyze assessments to gain a sense of what his or her students had learned from an instructional unit. Instead of a statistical analysis comparing pre- and post-assessment scores, I drew conclusions from the students' responses more holistically, to see a trajectory of student learning from the beginning of the unit to the end.

Student interviews. I digitally recorded the students' interview responses and had them transcribed by another researcher. I first coded the interview responses into categories that I developed based on the findings from the economics assessment. I looked for interview responses that triangulated findings from the assessment questions related to loans and entrepreneurship. Interview responses added detail to these findings.

The One Hen Project at Lanley Elementary

The purpose of this study is to understand the student and teacher experience in a project-based economics unit. Because the nature of project-based learning is student-centered (Larmer & Mergendoller, 2010; Thomas, 2000), certain projects will never look the same, even if they are replicated and teacher-initiated. Therefore, it is important to understand the context for the One Hen project at Lanley Elementary to truly understand the experience.

In Mrs. Rey's class, we began our economics unit by introducing the concept of microfinance (small loans) by reading

One Hen (Smith-Millway, 2008). In this book, Kojo used a very small loan to purchase a hen. He sold the eggs the hen laid, used that money to buy more hens, and then slowly, over many years, used a bank loan to build a prosperous chicken farm. He then loaned money to villagers who wanted to start their own businesses. The book is based on a true story, and many students were inspired by what Kojo accomplished with such a small loan. Reading *One Hen* helped to introduce complex economics topics and gave students an example of an entrepreneur who did great things with very little.

After reading *One Hen*, the fifth-graders formed business groups based on their table seating arrangement. Each business group received a loan of \$10, which the group used to buy materials from the “Lanley Store” to start the production of their products. I purchased the materials ahead of time and set prices for the classroom store. Although this store was not quite as authentic as the students purchasing their materials on their own, with their own money, I could not expect the students’ families to have the time, funds, or available resources to take their students shopping for materials. Some students did find materials on their own, but the students mostly purchased what they needed from the “Lanley Store” over the course of the project.

The Lanley students started social businesses to address the community problem of child abuse. Students decided to raise awareness of this problem through selling products such as calendars, key chains, pins, and friendship bracelets that were royal blue, representing the awareness color of child abuse victims. Other businesses produced children’s toys like slime and “stress balls” (balloons filled with cotton) that were also royal blue. The students’ research on child welfare and abuse in their city led them to discover a related problem of teenage homelessness. The students worked with an organization called the Teen House (a pseudonym) that was raising money to build a homeless shelter specifically for teenagers, donating their profits to aid in the construction of the shelter.

Each day, the groups sold their products during lunch, and many also decided to sell to friends and family at home. After their store closed each day, the students totaled their daily revenue, subtracted their daily costs, and calculated their daily profit. When setting a price for their product, students had to calculate unit cost and continue to revisit costs when considering any price changes throughout their experience selling. At the end of the project, the groups paid back their loans with 10% interest.

Findings

During their experience in the *One Hen* unit, the students had many opportunities to learn economic concepts and vocabulary and then practice economics skills during the

experience of running their social business. Although the students learned about many economics concepts throughout the project, these findings described what the students learned about loans and the role of loans and microfinance to entrepreneurs. The element of microfinance is what makes *One Hen* unique from other economics projects.

One of the targeted Michigan GLCEs in this unit states that elementary students need to participate in a market simulation: *4.E1.0.7 Demonstrate the circular flow model by engaging in a market simulation, which includes households and businesses and depicts the interactions among them* (MDE, 2007). The *One Hen* unit included a market simulation. Although the concept of how business owners use bank loans to start their businesses is not mentioned in the GLCE, this concept is a major point in the *One Hen* story and a key element to understanding microfinance as students learn about Kojo and other small business owners who rely on microfinancing to be successful entrepreneurs. The NCEE standards (2010) state that students should understand that entrepreneurs take risks to start business ventures (Standard 14): obtaining a loan could be considered a risk. Because the idea of obtaining a loan is central to the *One Hen* story and part of the national standard relating to entrepreneurship, measuring students’ understanding of loans and how they relate to starting a business was important.

Learning About Loans

The experience of running a business helped to contribute to the students’ understanding of the role of loans in entrepreneurship. On pre- and post-assessments, students were asked to define *loan* and to list the steps involved with starting a business. Students improved their performance on these questions as evidenced by increased specificity in their answers (see Figure 1). For example, Mario’s definition of a loan on his pre-assessment was very simple: “[A loan is] when you borrow something, mostly money.” Mario’s definition could be considered correct, although it lacks detail. On his post-assessment, Mario was able to give a much more detailed definition: “A loan is when you go to a bank and ask for money that you can soon pay back.” His post-assessment definition mentions banks, lending, and loan repayment.

One student, Summer, realized through the experience of selling her group’s product the importance of using the loan money to keep the business running. At the beginning of one day working on the business, one of Summer’s group members proposed that the group pay back the loan right away, since they had made just enough money from selling their product to be able to repay the loan with interest. Summer pointed out that paying back the loan would leave the group with very little profit money left to purchase what it needed to make more of their product. The group did not

have enough revenue yet to continue to purchase materials to generate more revenue. As she put it, “No product, no money.” Summer later described this lesson as a frustrating day in her group; she had been consistently balancing the books for her group with another group member and felt she had more knowledge of how much the group had made:

[Derek] wanted to pay the loan back fast, right when we had the \$11. [He said] “Let’s pay it back,” and then the rest of us were saying well, then we’d have to use our profit then to get all that. And now you can look at us and all we have to do is pay back \$11 and we still have a hundred something left over. . . . If we did have to pay the loan right there, we would have had [less].

Summer was able to see, through her experience with product design and calculating revenue, cost, and profit for her group, how important it was to keep the cost of the stress balls as low as possible and to make wise decisions about how to spend profits. This shows her understanding of loans becoming more sophisticated, as she was able to connect her knowledge to other economic concepts of revenue, cost, and profit.

The fact that the students experienced loan repayment through the project may have contributed to their greater understanding of loans. In the project, I was the bank, giving each business group a \$10 loan at 10% interest. The students experienced a lesson on the definition of interest and had to calculate the interest on their specific loan. Each group also signed a loan contract, promising to pay back the loan with interest at the end of the project. At the end, each group paid back its loans in full from its profits. For many students, loan repayment made the experience of running a business more authentic. “It felt great when we got our loan,” said Gaby, “that means I thought in my head we were ready and I knew we would not give up the first time.” Other students had anxiety about borrowing money, and the experience opened their eyes to the risks involved in starting a business. Alaina reflected in a post-interview:

[Before One Hen], I knew what the word loan meant but I didn’t know what it meant. Like I didn’t think it was actually when [banks] give you money. And I didn’t think you had to pay it back. I thought it was going to be bad because I didn’t think we were going to make a lot of money to pay it back and I thought if we paid it back we wouldn’t have any more money.

Alaina’s group (like all of the others) did have enough to pay back the loan, with plenty of profit left over, but her anxiety about borrowing money is an example of how seriously the students took the responsibility of borrowing a loan. This seriousness could be a promising step toward increasing these students’ sense of personal financial responsibility, but the goal of the One Hen project was not to show students that

borrowing money is always a negative experience. The focus is quite the opposite—that students understand that borrowing and lending money to start businesses helped grow the economies and decrease poverty in nations like Ghana and Bangladesh. There is evidence that the students began to see that getting a loan is a necessary step to starting a business.

Entrepreneurship

Students were asked to list the steps involved in starting a business on the pre- and post-assessments. Like the loan definitions, students’ responses to this question showed growth in the specificity of answers (see Figure 2). Again, Mario is an example of someone who developed increased detail and clarity. When asked the steps needed to take to start a business on the pre-assessment, he wrote simply, “big steps.” On the post-assessment, he listed three steps: “Think of a [business] to start, get a loan if needed, and buy supplies.” Although Mario had no knowledge to begin with about starting a business, he was able to answer this question after experiencing starting a business, and the role of loans is part of his description. Even students who had prior knowledge of how to start a business incorporated obtaining a loan into the steps involved when asked afterward. Another student, Max, wrote on his pre-assessment that to start a business “you would need to buy the stuff you want [to sell].” Max’s description did not mention how entrepreneurs obtain what they need to sell, but in the post-assessment, he had added this piece: “One, you need to get a loan. Two, you get the materials to start the business.” This comment shows that Max now sees loans as an important part of starting a business.

Experiencing obtaining a loan and successfully repaying it may have added to the students’ understanding of loans and how they are essential for entrepreneurs. However, many students were also inspired not only by their experience, but by learning about Kojo’s experience in the *One Hen* story (Smith-Millway, 2008). The character of Kojo is based on a true story, and many students were inspired by what he accomplished with such a small loan. The story helped some students to understand how micro-lending helps others in poverty. The students wrote reflection essays at the end of the project, where they wrote about the learning that connected to them the most. Alaina wrote about her connection between what the class accomplished and Kojo’s story:

A young boy named Kojo . . . asked some banks for a loan and one finally said yes. He bought one hen with the loan. He started his own business selling eggs. He gave money to help people just like we did. He got a loan and so did we.

Another student, Ally, wrote: “Kojo sold his eggs to people and he loaned some of his money to others. He made

a difference too.” Not only did the students develop a more detailed definition of loans during the project, they saw how important loans are to starting businesses, and, through the *One Hen* story, began to see how obtaining loans can help others in poverty around the world through microfinance. The following section details one student’s understanding of how loans and entrepreneurship are interrelated in any business, including a social business.

CeCe’s Story: Making Sense of Microfinance

CeCe was a member of the business group that sold calendars. She took a very involved role in the design of the artwork on each calendar page and was very proud of her group’s success. In an interview with CeCe before the project began, she had already realized that the class would be starting businesses, and was very eager to tell me her business ideas and her previous experience with selling products. She had previously sold lemonade to her cousins and had ideas about opening a pet store. I asked CeCe how she would go about starting a pet store and she described all of the many materials one would need—cat food, fish tanks, and other supplies. To do this, she said she would “work at a job and then when I save a lot of money for working, I would open up a business with the pets.” CeCe was aware that starting a business requires materials that require money to purchase, but like many of her classmates, did not mention loans as a way to get this money.

CeCe’s pre-assessment indicated that she understood that loans involved banks loaning money, which is more prior knowledge than most of her classmates had. Her post-assessment revealed relatively the same amount of understanding, but with one more detail: “A loan is money you get from a bank to start a business.” Her post-assessment response about what was needed to start a business now mentioned loans, whereas on the pre-assessment, her response was similar to her discussion with me about opening a pet store—that you need materials to get started, but no awareness of how entrepreneurs get these materials. In a post-interview, CeCe described her newfound understanding of the importance of loans and reflected on how other entrepreneurs may not have the same opportunities as her group had:

I learned that getting a loan . . . it’s really important for a business for starting it. And some banks say no [to a loan] because they’re not sure if you can pay it back. Other [microfinance] banks help people in the community. They’re helping the world to make it a better place.

Kojo’s story about being rejected for a loan from a big bank until he finally found one that would lend him money, and the videos I showed the group about Mohammed Yunus and his Grameen Bank, showed CeCe ways that small business loans can help get entrepreneurs out of poverty.

The calendar group made the most profit. Despite some of CeCe’s classmates’ anxieties about paying the loan back, her group was never in danger of not having enough profit to repay the loan. CeCe reflected on the kind of impact her group’s profit could have on the community problem of child abuse that the class decided to address. “When children get hurt, it’s taking away your safety, your family and taking away that human right. [Looking at the calendars] reminds people like first thing in the morning—Oh, stop child abuse. I think I can do that today. . . . We made lots of money. . . . I think we’re going to help the teenagers and the children.”

Summary of Findings

Before the unit began, the students were able to define a loan in general terms, but after the unit, they demonstrated a more detailed understanding of how loans work, including that people get loans from banks that they have to pay back with interest and those loans are sometimes used to help entrepreneurs start businesses. There is also evidence that the students were beginning to understand microfinancing, due to the story of Kojo and the videos of women borrowing from Yunus’s Grameen Bank in Bangladesh. Understanding loans is not specifically mentioned in the GLCEs (although it could be included as one of the NCEE (2010) standards for upper elementary economics: *Content Standard 14: Students will understand that entrepreneurs are people who take risks of organizing productive resources to make goods and services*, which indicates that after the *One Hen* unit, students’ economic understanding was beyond what is expected of them at their grade level.

Discussion

What makes the *One Hen* unit unique from other experiential economics programs is the kind of business students run: a *social* business. By developing social businesses, students participate in civic engagement in addition to learning economics content. An important part of project-based learning is the authentic experiences students get in solving community problems and the meaningful ways they learn content through these experiences. There is evidence that the Lanley students developed their sense of civic efficacy and learned economics content in a meaningful way from their experience.

Developing Civic Efficacy

There are specific lessons in the *One Hen* unit that provide students the opportunity to explore websites of different organizations that serve to help solve larger global problems (e.g., poverty, homelessness, and hunger) in order to broaden their awareness of community problems. At Lanley Elementary, the students generated a list of community problems

that they would like their social businesses to help address. After a whole-group brainstorming session and another follow-up discussion, Lynn's class decided to try to help address the problem of child abuse and neglect.

Child abuse and neglect is a global and a local problem. Because creating a specific product to address abuse and neglect was not possible (i.e., none of us were qualified to offer services such as counseling), the students took a few days to decide on creating products that would serve one of two purposes: (1) to make kids feel happy, safe, and comfortable, and (2) to raise awareness of the problem of child abuse. The class decided that its products should all be a royal blue color, which they discovered was the "awareness color" for child abuse victims. Groups like the calendar group, the pin group, and the key chain group all made products to raise awareness and pass hopeful messages. The slime group and the stress ball group aimed to create products children would like and that were also blue to raise awareness.

Researching child abuse and neglect led the students to become aware of related problems such as teenage homelessness, which we discovered was a major problem in their city. The director of an organization that was dedicated to raising money to build a homeless shelter specifically for teenagers came to talk to the class several times, and at the end of the unit, when the social businesses stopped selling their products, the students decided that they should donate their final profits to this organization. The class raised \$700 of profit, which they gave to be used for the general construction of the shelter as well as a fish tank to place in the finished safe house. The organization, the Teen House, told the students that they could allocate their donation toward something specific, and I facilitated a large group discussion about what they could earmark their donation for that would match the vision of the social businesses. After a suggestion from CeCe, the group decided on a fish tank because it would give the homeless teenagers pets to take care of and watching the water and fish would be a calming, stress-relieving activity. The director of Teen House agreed to purchase a fish tank with the class's donation and to put a commemorative plaque next to the tank with all of the students' names.

The class's work with community problems served as an authentic example of social activism: the students saw that their impact was real. This specific part of the experience showed them that they can start with something small (a \$10 loan) and use the loan to start a business, whose profit could make a significant, positive impact on their community. The NCSS (2010) Standard 10 for civics and civic engagement asks students to (1) understand that key practices in a democratic society include civic participation based on studying community issues, planning, decision-making, voting, and cooperating to promote civic ideals, (2) ask and find answers to questions about how to plan for action with others to improve life in the school, community,

and beyond, and (3) participate in civic discussion and action about a school or community issue (p. 90). The fifth-grade students had the opportunity to engage in these "plan-oriented" practices many times in the unit, and the students' responses indicated that they are developing their civic engagement.

Like Kojo in the book, who lent his profits to other entrepreneurs, the students sought to improve their community with their businesses. The students donated most of their profits to a teenage homeless shelter. They kept seed money for their next business ventures, just like true entrepreneurs. The One Hen unit might offer a way for students, even at a young age, to realize how they can engage in their community as agents for change, even possibly discovering a future career as entrepreneurs. The fact that the fifth graders had a successful experience running a business helped them see that they could make a tangible impact on their community by starting with very little. It is possible that the One Hen unit, and units similar to it, might empower students through entrepreneurship.

Meaningful Economics Learning

Elementary economics is often taught in an experiential approach, where students experience some real aspect of participating in the economy (Broome & Preston-Grimes, 2011; Kourilsky, 1977; Kourilsky & Ballard-Campbell, 1984) and this unit is no different. Brophy and Alleman (2006) recommend an approach to elementary social studies they call "cultural universals," which are fundamentals of human life, and one of them, "money," belongs to the field of economics. Grasping the concept of money is critical for understanding how to participate in the economy. They found that students struggled with grasping the concept of money. The One Hen unit provided the students at Lanley many opportunities to practice working with money and to understand how money is essential to running a business. The students were also able to help younger students in the school work with real money as consumers of their products.

Brophy and Alleman (2006) suggest that a deeper understanding of money will emerge early in a student's life if he or she has frequent, real experiences with money. In the One Hen unit, students have experiences working with money every day that they sell their product, which in this case was nearly four weeks. Without the experiential approach of One Hen, students might have developed misconceptions about money and might never have fully understood revenue, cost, profit, and loans on their own (Miller & VanFossen, 2008). These misconceptions could have more serious implications for these students in their adult lives when faced with their own personal financial decisions (Meszaros & Evans, 2010). Lynn's students took their real experience of getting a loan for their social businesses seriously, and the "real" experience of One Hen could possibly help these students make smart decisions when getting a loan (or a small business loan) of their own one day.

Conclusion

There are many economics curricula that aim to develop students' economic reasoning skills and understanding of economic concepts, but there is little research on these curricula in action in the classroom. Research on how students are developing these problem-solving and reasoning skills is very thin (Miller & VanFossen, 1994; Miller & VanFossen, 2008), but has the possibility to increase students' civic engagement as well, as the students are also attempting to solve community problems using economics. The fact that the low-SES students at Lanley had an authentic opportunity to become more aware of larger global problems and experienced success with solving a global problem locally makes One Hen a unique project-based economics unit.

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