Developing the money skills of teacher candidates.

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In an era of economic uncertainty and increasing financial difficulties, especially for young adults, the need for financial literacy is growing. In this study researchers asked teacher candidates at two major universities to participate in a well-known financial literacy program called MoneySkill® to see if the MoneySkill® program is a viable tool for increasing elementary, early childhood and middle level teacher candidates' financial literacy content knowledge. Since most teacher training institutions do not have room for another credit course, the MoneySkill® program may be a way to address candidates' financial literacy content knowledge gaps. Results from the study indicate that the MoneySkill® program did significantly increase candidates' financial literacy content knowledge.

Researchers find that financial illiteracy of American children and youth represents a social studies education concern (e.g., Lusardi, Mitchell, & Curto, 2010; Mandell, 2008a; 2008b). If one purpose of social studies teaching involves the development of citizens for social engagement, then students should possess a working knowledge of personal economic tenets that support the economic system. Teaching future citizens the tenets of earning and managing financial resources involves short- and long-term economic and social consequences. Citizenship education represents a multidisciplinary process that requires contributions from various scholarly perspectives.

In March 2011, a working group of scholars from a variety of academic disciplines crafted a model for conceptualizing the development of economic citizenship. In their model, the group identified financial education as one of three foundational elements (the other two being social education and financial inclusion) that underlie its development (Children and Youth Finance International Research Working Group, 2012).

Personal finance education represents an area of economics, which is a social studies discipline. Much scholarly attention has been paid to the de-emphasis of social studies education in an environment of intensified literacy and mathematics (e.g., Bolick, Adams, & Willox, 2010; Fitchett, Heafner, & Lambert, 2014; Hubbard, 2013). As a result, shortcomings in economic education exist in terms of emphases on numerical relationships and de-emphasis of human rights and social responsibility (Arthur, 2012; Lucey, 2012; Pinto & Coulson, 2011). In this environment of decontextualized teaching of reading and mathematics skills, future citizens develop limited awareness of societal resource management. Absent this knowledge, children lack understanding of how their financial decisions fit into the social-political contexts that they occupy (Carr, 2012).

While there is evidence of increasing national interest in financial education, state legislatures provide comparatively little attention to its need in elementary classrooms (Council for Economic Education, 2014). There is some perception in the literature that young children may be too immature to appreciate education about personal finance (e.g., Way & Holden, 2009). Yet other
studies contradict such attitudinal findings, particularly when such studies draw from professionals who have direct associations with such settings (Lucey, 2011; Lucey, Giannangelo, Hawkins, Heath, & Grant 2007; Otter, 2010). Research has found that young children are capable of learning about personal finance when given the opportunity (Chen & Heath, 2012; Sherraden, Johnson, Guo, & Elliott, 2011).

Teacher educators have a responsibility to develop candidates who possess the ability to articulate firm and accurate understandings of the content that they teach. Yet studies repeatedly show that elementary and middle-level teachers possess poor working knowledge of social studies content (e.g., Lucey, Hatch, & Giannangelo, 2010; Sanchez, 2010). If children and youth are to become financially literate, teachers should possess personal finance content knowledge to properly educate their students.

In this paper, we describe the online modularized MoneySKILL® education program, present outcomes of teacher candidates’ participation in the program, and discuss implications for the program in regard to teaching and research. In doing so, we convey information about a possible tool for informing teacher candidates about this important area of social studies content.

Literature Review

This literature review focuses on preservice and practicing teachers’ financial literacy and related education efforts. Lusardi and Mitchell (2013) provided support for financial literacy’s economic relevance. In doing so, they pointed out that early 21st century climates place more responsibility on individuals for making their own financial decisions, and that many adults lack the knowledge to make sound financial decisions. In a society where children learn about financial behavior primarily through modeling at home, elementary teachers should have a crucial role in teaching children the tenets of personal finance as a basic life skill.

While some research has been conducted with regard to economic education and teacher knowledge/efficacy (e.g., Way & Holden, 2009), our review of literature found no studies that measured the financial literacy of pre-service teachers. Studies that measured financial or economic knowledge of teachers found low understandings of these areas, particularly among elementary teachers (e.g., Garmon, 1979; Grimes, Milee, & Thomas, 2010; McKenzie, 1971). Staubs (2007) found no relationship between personal economics teaching efficacy and content knowledge among preservice teachers; however, the study determined that education in content knowledge related to the amount and nature of economics content in teachers’ lesson plans.

While self-efficacy is a trait accomplished teachers possess, a confident teacher who does not understand his or her subject matter may misrepresent content to students. Indeed, literature points to the need to prepare teachers who learn through critical discussion of content and conceptualize their teaching subjects through broad lenses (Hedges, 2009; Lucey, 2012; Postman & Weingarten, 1968). Knowledge of personal finance content is essential for teachers’ articulation and inclusion of subject matter when teaching students (Staubs, 2007). Absent such information, teachers may uncritically depend on mass produced curricular materials that contain inaccurate or biased content (Stanger, 1997). Godsted and McCormick (2007) reported that lack of specific financial education standards and readily adaptable curricular materials were obstacles to implementation of financial literacy education. While various states have implemented financial literacy standards (Council on Economic Education, 2014), little attention has been devoted to the preparation of teachers to teach about personal finance (e.g., Lucey, 2008; Schug, Wynn, & Posnanski, 2002).

Because many elementary teachers tend not to experience college coursework that relates to personal finance, they may not associate it with their professional pursuits. Way and Holden (2009) found from their survey of teachers in eight states that slightly more than a third of respondents had taken a college level course that contained personal finance content and less than
three percent had taken a college level course devoted to that topic. Pre-service teachers’ low exposure to financial literacy involves consequences that are both professional and personal.

Studies that concern the financial literacy of college students in general found that differences in financial literacy occur among students based on their areas of study, class status, and race/ethnicity (Akey, 2006; Mandell, 2008a). Yet the financial literacy needs of college students may also relate to the socio-historic contexts from which the students derive. Eitel and Martin (2009) found that students who lack knowledge of financial tenets possess distrust of the financial system and, thus, lack the will to accept responsibility for their financial behaviors.

Literature provides some evidence that coursework to improve the financial literacy of college students through financial experience, reflection, and discussion may succeed in affecting positive financial behaviors (Jobst, 2012). Research indicates that attitudes toward consumer economics content can be changed through education (e.g., Langrehr, 1979; Staubs, 2007). Regarding preservice elementary teachers, the content of such coursework may affect candidates’ views of financial literacy (Lucey, 2011).

Efforts to prepare and educate teachers and teacher candidates about tenets of personal finance have met with increased knowledge and confidence in teaching related topics (e.g., Lucey, 2008; Schug, Wynn, & Posnanski, 2002). Nevertheless, these studies suffered from small sample sizes, volunteer participants, and (in the former study) the use of an attitudinal survey. Recently, Hensley (2013) reported increased motivation and content appreciation among teachers who participated in a series of pilot experiences training teachers to teach about personal finance. Statistics presented in the report indicate that a significant number of participants may have already possessed pro-financial literacy beliefs and behaviors prior to the experience, suggesting a predisposition that may have biased study outcomes.

MoneySKILL®

The MoneySKILL® program is a free modularized online learning tool designed to educate middle level and high school students about their personal finances. The American Financial Services Association Education Foundation (AFSAEF) had the course content developed by Dr. Lewis Mandell, Professor Emeritus of Finance and Managerial Economics and former Dean of Business at the State University of New York at Buffalo. AFSAEF administers the online program that offers teachers prepared learning experiences through which students are tutored and quizzed on information that relates to personal finance.

MoneySKILL® content is aligned with the national Jump$tart curricular standards in addition to the standards developed by the states of Indiana, Maryland, New York, New Jersey, South Carolina, Tennessee, and Texas to ensure learners experience appropriate material. The middle level program offers 12 modules within the areas of income, expenses, savings, and credit. The high school program offers 36 modules that relate to income, expenses, savings and investing, credit, and insurance. The teacher establishes a class by creating an account at the MoneySKILL® website (www.moneyskill.org), selecting the modules for student learning, and monitoring student progress through the course. The program provides a grade book that informs teachers about the progress and performance of their students. While other online programs have features in common with MoneySKILL® (gradebook and modularized learning), MoneySKILL® offers a direct instruction approach that provides students with a visual and audio presentation of content for their learning and gives immediate feedback to questions about each module.

Literature indicates that financial literacy represents an important educational concern because it is lacking or absent at elementary grades and inadequate or absent in many states. The literature indicates that pre-service teachers are financially illiterate, and MoneySKILL® represents a vehicle by which they can learn about their personal finances. Given this professional environment, the social studies education community would benefit from information about an
online resource that may contribute to the development of elementary and middle level teachers’ content knowledge. This study intended to answer the following research question.

Do elementary and middle level teacher candidates’ scores on pre- and post- assessments of their knowledge of middle level personal finance tenets increase after completion of the MoneySKILL® online education program?

**Methodology**

**Sample**

The participants in this study derived from a convenience sample of elementary and middle level teacher candidates from two institutions: a large teacher education institution in the Midwest and a university based urban teacher education program in the South.

Participants from the Midwestern institution were enrolled in one of three classes. Two were sections of a senior level elementary social studies methods course ($n = 50$). The third was a section of a middle level strategies and resources course ($n = 13$). Candidates from the southern institution were enrolled in one section of an elementary social studies methods course ($n = 16$). There were 79 candidates among the four classes eligible for the study. Of those eligible, 68 consented to participate or to have their program results analyzed. Through the analysis, four cases were eliminated for incomplete or spurious patterns of response.

**Table 1**

<table>
<thead>
<tr>
<th></th>
<th>Elementary Midwest</th>
<th>Middle Level Midwest</th>
<th>Elementary Southern</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enrolled</td>
<td>50</td>
<td>13</td>
<td>16</td>
<td>79</td>
</tr>
<tr>
<td>Consented</td>
<td>47</td>
<td>6</td>
<td>15</td>
<td>68</td>
</tr>
<tr>
<td>Analyzed</td>
<td>43</td>
<td>6</td>
<td>15</td>
<td>64</td>
</tr>
</tbody>
</table>

**Measures**

The middle school course is based on the high school course and was developed by three middle school teachers from the Charter School for Applied Technology in Buffalo, NY. Knowledge of personal finance was interpreted by candidate responses to assessments associated with the middle school version of the MoneySKILL® program. Candidates completed assessments of their financial knowledge before and after their exposure to the learning modules. They also completed assessments of knowledge associated with each learned area after completion of its learning module.

**Procedure**

Data were collected during the Fall 2012 semester. Candidates enrolled in the elementary methods courses were assigned the MoneySKILL® program as a standard assignment. The syllabus for the Midwestern students contained instructions for students to go to the website [http://www.moneyskill.org](http://www.moneyskill.org) and log-in to the website using username and password provided by the instructor and to complete all of the assigned modules. The syllabus for the Tennessee students listed the relevant standards, described the assignment expectations, and listed the names of the assigned modules. Students in both locations received course credit for completing the program.
Middle level students enrolled in the Strategies and Resources course completed the program as an extra credit opportunity.

**Analysis**

Descriptive statistical analysis measured the changes in participants’ mean scores with regard to knowledge of personal finance before and after their completion of the MoneySKILL® middle level modules. Scores associated with each of the learning modules also were interpreted.

**Results**

**General Findings**

Table 2 presents the candidates’ mean scores for the pre- and post-assessments. It also presents the average change between assessments. On average, participants correctly answered more than three-fourths (77.65%) of pre-course items. On a standard 90, 80, 70, 60 grading scale, this percentage of correct responses would qualify as a C+.

<table>
<thead>
<tr>
<th>Table 2</th>
<th>Overall Change in Knowledge of Personal Finance (n = 64)</th>
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<tbody>
<tr>
<td>µ</td>
<td>Minimum</td>
</tr>
<tr>
<td>Pretest</td>
<td>77.65</td>
</tr>
<tr>
<td>Posttest</td>
<td>96.12</td>
</tr>
<tr>
<td>Change</td>
<td>19.06</td>
</tr>
</tbody>
</table>

Table 3 lists the statistics associated with performances for each module after completion by the candidates, as well as the average module score. Candidates averaged correct responses to more than four out of five (88.16%) assessment items. The highest mean of correct responses was associated with the “Your Credit Rating” module. Candidates correctly answered nearly all (97.42%) items for this module.

<table>
<thead>
<tr>
<th>Table 3</th>
<th>Scores Associated with Each Module Assessment (n = 64)</th>
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<tbody>
<tr>
<td>Mean</td>
<td>Minimum</td>
</tr>
<tr>
<td>Earned Income and Skill Demand</td>
<td>88.66</td>
</tr>
<tr>
<td>Consumer Life Cycle</td>
<td>86.17</td>
</tr>
<tr>
<td>Withholdings and Deductions</td>
<td>84.66</td>
</tr>
<tr>
<td>Tracking Expenses and Budgeting</td>
<td>83.98</td>
</tr>
<tr>
<td>Paying for What We Buy</td>
<td>83.80</td>
</tr>
<tr>
<td>Using a Checking Account</td>
<td>87.97</td>
</tr>
<tr>
<td>Renting versus Owning a Home</td>
<td>85.58</td>
</tr>
<tr>
<td>Expenses for Food and Clothing</td>
<td>95.31</td>
</tr>
<tr>
<td>Buying or Leasing a Vehicle</td>
<td>87.06</td>
</tr>
<tr>
<td>Saving</td>
<td>85.16</td>
</tr>
<tr>
<td>Credit Cards</td>
<td>92.25</td>
</tr>
<tr>
<td>Your Credit Rating</td>
<td>97.42</td>
</tr>
<tr>
<td>Average</td>
<td>88.16</td>
</tr>
</tbody>
</table>
The lowest mean of correct responses was associated with the "Paying for What We Buy" module. On average, candidates correctly answered 83.80% items with this module.

Discussion

Teacher candidates' knowledge of personal finance increased after completion of the 12 MoneySKILL® middle school learning modules. The relevance of this study relates to its evidence that elementary and middle level pre-service teachers can learn the content knowledge that is needed to teach their students about personal finance. The moderately high average score on the pre-test appears to indicate that those participating in the study demonstrated stronger financial knowledge than did those who participated in earlier research efforts. Such is not the case. The pre- and post-tests interpreted participants' knowledge of personal finance that would have been appropriate for a middle school aged student. In other words, participants averaged a little better than three out of four questions correctly about material that 6th, 7th, and 8th grade students should know. Measuring understandings of personal finance information that is appropriate for young adults would be expected to yield lower percentages of accurate responses from study participants.

Limitations

This study involved convenience samples, and results may not be representative of students in the teacher education programs or at these institutions. Additional studies that use larger randomized samples are necessary to confirm or refute the findings. Unfortunately, no information that concerns the statistical validity and reliability status of the MoneySKILL® pre- and post-assessment tools is available. Future studies that ascertain this information are necessary to ensure that the assessments measure what they are supposed to measure and that they do so consistently.

Conclusions

As a result of this study, we find that exposure to the MoneySKILL® middle school program increased teacher candidates' knowledge of personal finance. Additional research is needed to broaden interpretations of what teacher candidates learn through MoneySKILL®. For example, Akey's (2006) finding of significant financial literacy differences among college upperclassmen and underclassmen would suggest that teacher candidates may experience various learning benefits through MoneySKILL®.

Nevertheless, teacher content knowledge, itself, may be insufficient to increase student achievement. Swinton, DeBerry, Scafidi, and Woodward’s (2010) findings that high school teacher economic content knowledge increased after multiple professional development workshops may indicate that repeated exposure or working knowledge of content is requisite for guiding student learning. Skyes, Bird, and Kennedy's (2010) articulation of teacher training as a multidimensional process that requires bridging gaps between classroom and practice suggests that a simple input-output model for teacher training may not provide a complete interpretation of such endeavors implies that the process for learning content may be just as important as learning the content itself.

Danes and Brewton’s (2014) research, which concerned outcomes associated with the National Endowment for Financial Education’s (NEFE) High School Financial Planning Program, measured both participant content knowledge and behaviors. The study was founded on Danes and Brewton's recognition that financial literacy education required a socialization component to interpret students' application of concepts learned in financial education programs. Their study interpreted student survey responses, rather than observational data.
The current study indicates that use of MoneySKILL® increased the participants’ short-term knowledge of personal finance, as conveyed through the learning modules. Additional research needs to interpret (1) long-term retention of learners’ understandings of module content, (2) outcomes of repeated exposure to module content, and (3) the use of MoneySKILL® as part of a broader financial literacy education effort that teaches students the socialization skills necessary to apply the knowledge contained in the modules. Such efforts could relate to a critical interpretation of financial literacy and its relationship to guiding applications of citizenship (Arthur, 2012; Carr, 2012; Pinto, 2013). Future studies could also compare MoneySKILL® with other online financial education programs such as the Foolproof.com consumer education series, or FDIC’s Money Smart Curriculum.

Finally, the measure of financial literacy in this study interpreted the short-term learning effects of the modularized experience. Studies that examine the long-term retention of knowledge gained through programs or full semester courses would help to inform what education efforts may have lasting effects on their participants’ learning.

Financial literacy represents an important aspect of citizenship development in a capitalist setting. Preparing teacher candidates who possess the content knowledge to teach their students about personal finance represents a necessary part of citizenship development. This study finds that MoneySKILL® represents a viable option for improving the financial literacy of teacher candidates. Used as part of a multifaceted financial education process, the program may contribute to the development of a citizenry that has a working knowledge of financial tenets that underlie society.

References


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Teachers have the ability to change lives and develop well-educated and respectable students; they can help with not only knowledge growth but personal improvement, too. It’s an incredibly rewarding career path and the long holidays are a huge plus! Good educators are high in demand, but to be an effective teacher, you need to have a diverse set of professional skills to complete the package. You need to have instructive skills, your own style of teaching and the ability to explain and demonstrate clearly so that concepts that are not easy to understand are simplified using memorable examples or props. Communication. Teachers must have remarkable communication abilities. They must be able to interact with people of all ages, including colleagues, pupils, parents and managers.