
Self-Efficacy of US High School Teachers Teaching the Federal Budget, National Debt and Budget Deficit: a mixed-methods case study

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ABSTRACT This study examined US high school social studies teachers' self-efficacy in teaching the federal budget, national debt and budget deficit prior to and after implementing a pilot curriculum on these topics. The authors examined 24 teachers' topical knowledge, inquiry-based instructional skills in democratic-dialogue-focused lessons and attitudes in civic engagement activities by using baseline and post-self-efficacy surveys, and interviews. The findings revealed that the implemented pilot curriculum had no effect on teachers' confidence of topical knowledge in teaching the topics, while a positive effect was found in the confidence of teachers in facilitating democratic dialogue. Additionally, after using the curriculum, teachers showed an increase in their belief that citizens can make a difference in society. The qualitative data from interviews with the teachers confirmed the survey results, and the teachers' positive perceptions of the curriculum experience suggested an overall success of the curriculum experience for teachers' self-efficacy. The authors believe the findings are suggestive of a process of learning that teachers themselves undertake in mastering content knowledge. An understanding of how teachers confront economic and public policy teaching tools and increases in self-efficacy may result in more empowered teachers and informed students.

Introduction

Many economists agree that the ratio of government debt to gross domestic product (GDP) is an accurate gauge of a nation's fiscal health. Many believe that governments should aim for a sustained debt-to-GDP ratio of 60% or less (Congressional Budget Office, 2010; Peter G. Peterson Foundation, 2011). The current US publicly held debt is nearly US\$10.1 trillion, or over 68% of the 2011 GDP (Congressional Budget Office, 2012). This level is high by most standards. Put another way, the US publicly held debt now stands at more than US\$32,225 for every man, woman and child in the USA. In addition, the 2012 the annual budget deficit will be approximately US\$1.1 trillion, or 7% of the GDP. Over 40 cents on every dollar that the federal government spends in 2012 will be borrowed (Congressional Budget Office, 2012).

These issues are not limited to the USA. Greece and the entire European Union continue to struggle with increasingly more massive national debts, and the debate on how to manage these challenges is far from over. Increasingly, these challenges both domestically and worldwide are rising to the forefront of US consciousness – and educating the future generations on how to approach and study these public policy issues is of long-term importance.

The federal budget, national debt and budget deficit remain central issues in current debates surrounding national elections in the USA. Informing the discussion on the state of the union, federal obligations to citizens and the costs of these obligations to future generations, a comprehensive understanding of the federal budget, national debt and budget deficit may be seen

as necessary to support effective public policy decision-making. An examination of these issues in K-12 schools is an essential part of improving Americans' overall awareness of contemporary economic issues (Marri et al, 2011) and promoting economically literate citizens. Engaging with the federal budget, national debt and budget deficit enables students to understand the contextual factors that play a role in civic decision-making (Etzioni, 1967). Without such knowledge, students may not be able to fully analyze public policy issues or responsibly engage in influencing those policy decisions in ways that reflect an informed point of view. Students should be prepared to participate in democratic discussions regarding the likely outcomes of public policy decisions, a discourse informed by historic examples and contemporary priorities. Additionally, a fuller understanding of current economic policies will help students gain insights into how the federal government's responsibilities and modes of operating have changed over time (Mosher, 1980), and promote analysis of the current economic stratification and inequality in the USA (McCammon, 1999; Atkinson et al, 2011).

However, most youth in the USA do not have an adequate awareness of the concepts of the federal budget, national debt and budget deficit (Marri et al, 2012). Biennial findings of the Council for Economic Education on the state of economics education in the USA similarly agree that federal budget, national debt and budget deficit topics are not adequately treated at the secondary level (Marri et al, 2011). These topics are not typically addressed in either civics or economics courses at the secondary level (Marri et al, 2012, forthcoming). Further, most social studies teachers are inadequately prepared to teach these topics since many pre-service programs continue to underemphasize economics and only a few social studies teachers have significant coursework in the discipline (Walstad, 1992; Salemi et al, 1996; VanFossen, 2000; Joshi & Marri, 2006; Miller & VanFossen, 2008). On average, teachers are usually exposed to no more than two resources, such as textbooks or curriculum guides, to support them in the instruction of complex economic and policy issues (Marri et al, 2011).

As a result of their poor pedagogical content knowledge (Shulman, 1987) and lack of resources, many high school social studies teachers feel overwhelmed when required to teach the federal budget, national debt and budget deficit. This may reduce their self-efficacies, increasing their reluctance to teach these topics and eventually negatively affecting student outcomes (Cobb & Foeller, 1992). Thus, with the intention to better support social studies teachers' preparation of their students, we developed a curriculum to provide high school students with the tools necessary to develop: (1) the knowledge to understand the significance of these topics; (2) the ability to articulate their own judgments; and (3) the disposition to discuss these often controversial public issues (Hess, 2009) thoughtfully with others.

We developed a longitudinal research study to monitor the implementation of the curriculum and its outcomes. As a part of the study of the impact of the curriculum on students, we also sought to understand the effects of curriculum implementation on participating teachers. In particular, we focused on investigating 24 high school social studies teachers' self-efficacy in teaching the federal budget, national debt and budget deficit prior to and after implementing the curriculum. The study examined the following four research questions:

1. How did the teachers perceive/experience the curriculum?
2. To what extent does teachers' curriculum implementation experience affect their self-efficacy in topical knowledge of public policy and economic issues?
3. To what extent does teachers' curriculum implementation experience affect their self-efficacy in facilitating inquiry-based and democratic-dialogue-focused instruction?
4. To what extent does teachers' curriculum implementation experience affect teachers' self-efficacy in their participation in civic engagement activities?

In the next section, we provide background about the curriculum before explaining the study's conceptual framework.

Curriculum Background

The research-and-inquiry-based curriculum for civics/government, economics, US history, world history and mathematics classrooms connects students to the current public policy dilemmas about the federal budget, national debt and budget deficit that confront the USA and its citizens. The

lessons engage students in these critical dilemmas and include the resources students will need to deepen their understanding of the complex issues the dilemmas raise. The curriculum is non-partisan and invites participants from all points of view to ask:

- What do the decisions we make about the federal budget, national debt and budget deficit say about who we are as a people?
- How should we address our nation's fiscal challenges now and in the future to assure that our decisions are consistent with our values and traditions?

As a non-partisan research-and-inquiry-based curriculum, the lessons do not steer students toward any one conclusion about the federal budget, national debt or budget deficit. Our goal is to have students understand the issues in all their complexities, be able to clarify their own thinking about these issues and, ultimately, care enough to become involved in debating these and other public policy questions as citizens.

This curriculum takes a cross-disciplinary approach to the topics of the federal debt, national debt and budget deficit by integrating social studies and mathematics concepts. The lessons contain the following components: essential questions, goals, instructional/extension/homework activities and resources that are aligned to standards. We used three elements in designing the curriculum: (1) essential-question-driven, (2) inquiry-based and (3) democratic-dialogue-focused.

Essential-Question-Driven

Essential questions are overarching questions that help to focus a theme-based lesson unit and prompt students to probe for deeper meaning (Wiggins, 1989; Gardner & Dyson, 1994). Essential questions tend to be open-ended, complex and not easily answered with facts and figures; instead, they may lead to other questions that will engage students and deepen inquiry. Essential questions help students focus on the most important aspects of the concept or enduring understanding that the lesson is centered around (Wiggins & McTighe, 2005). Thus, rather than taking away discrete pieces of information, students are challenged to examine key concepts related to the essential question by examining multiple perspectives and taking into account various types of data. Teachers create experiences that allow all students to learn the necessary content and develop skills needed to address essential questions thoughtfully and thoroughly (Wiggins & McTighe, 2005).

We organized each lesson around one essential question. Some of the essential questions we used include:

- How should we make decisions about reducing or modifying spending on national security? Can we meet our national security obligations while reducing deficit spending on the military?
- Should we raise income taxes to reduce the budget deficit and pay down the national debt?
- What costs and trade-offs are we willing to accept to ensure the benefits of income security to Social Security recipients?
- Is there a fair and efficient way to fund and maintain the public services we want?
- Should political philosophy influence how we view the federal budget?

Inquiry-Based

We created inquiry-based lessons that do not drive to any one conclusion about the significance of the debt and deficit, their primary causes and/or any best solutions. We aimed to have students understand the issues in all of their complexities, clarify their own thinking and, ultimately, care enough to become involved in these and other public policy questions as citizens. Inquiry-based questions hold significantly more power to engage students and ensure the transfer of knowledge (Rosenshine et al, 1996; Hand et al, 2002; Capalongo-Bernadowski, 2006; Taboada & Guthrie, 2006). While the lessons include questions that require careful reading of text and recall of information, the lessons emphasize questions that create a more lasting engagement with the material to allow for scaffolding of learning (Rosenshine et al, 1996; Anderson et al, 2000; Taboada & Guthrie, 2006). Lesson questions tend to be open-ended, with no clear-cut answers, and expect critical thinking on the part of the student. Further, assessments in the lesson measure how students *use* what they know over simply memorizing facts and vocabulary.

Democratic-Dialogue-Focused

The public policy dilemmas we face and the choices we make as nations cause controversy. While rooted in information and analysis, such choices are also based on the priorities and needs of each individual. Teachers should look for opportunities to engage with the kind of controversy that challenges students to examine their own assumptions and better understand the perspectives of others. In the context of a social studies classroom, productive discussions that flow from this sort of controversy have been called democratic dialogues. Within the framework of controversy, democratic dialogues create room for diversity of opinion and respectful disagreement. This practice has also been defined as assertive pluralism or prioritizing the role of controversy in the teaching of economics (Freeman, 2010). At the conclusion, participants should leave feeling that they can better comprehend the issues, better understand those points of view with which they disagree and, perhaps most importantly, better articulate their own viewpoint. Students do not need to reach consensus about what should be done, but they should understand the importance of continuing their conversations and acknowledging the values they share with other students.

Conceptual Framework: teacher self-efficacy

With the intention to better support teachers' preparation of students, the curriculum is designed for students to leave with an understanding of economic and public policy instruments and themes that endures into adulthood and informs their current and future civic participation. While improving student engagement and understanding of the federal budget, national debt and budget deficit are the curriculum's primary goals, the ability of teachers to facilitate the curriculum with students is essential. The current policy debates on the federal budget, national debt and budget deficit, and the swiftness with which the content changes makes teacher knowledge mastery increasingly more difficult to maintain. On the other hand, research has found that regardless of which sources of information a person uses, there is a close relationship between perceived self-efficacy and actual performance of individual tasks (Bong, 2003; Schunk, 2005). Content knowledge alone is insufficient to accomplish a desired outcome, and self-efficacy mediates the relationship between knowledge and action (Plaza et al, 2002). Therefore, it becomes necessary to think not just of knowledge mastery but of teacher self-efficacy – a key characteristic central to equipping teachers for the challenges of teaching in the current US economic and political environment.

Self-efficacy can be broadly defined as the belief in oneself. More precisely, perceived self-efficacy is defined as people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events which affect their lives (Bandura, 1994). Self-efficacy is strongly related to one's perceived competencies and powerfully influences the control exercised by individuals regarding their capabilities to organize and execute action (Goddard et al, 2004). Self-efficacy cannot be considered as a static measure, intrinsic or predetermined to an individual, but is a changing belief system derived from prior actions and outcomes. While certain activities such as continuous failure may negatively affect a teacher's self-efficacy, other activities have been identified which have the opposite, positive effect. Performance accomplishments, vicarious experiences, verbal persuasion and physiological states are seen as four essential experiences supporting positive self-efficacy belief (Bandura, 1977).

Performance accomplishments may be defined as mastery experiences, wherein teachers, like students, are empowered by successes and use that empowerment as fuel to motivate the undertaking of increasingly more difficult challenges (Bandura, 1977). Physiological states also play a role in determining an individual's self-efficacy. Teachers who believe they may do well will have greater opportunities to succeed, while, in contrast, 'fear-provoking thoughts about their ineptitude ... can rouse [individuals] to elevated levels of anxiety that far exceed the fear experienced during the actual threatening situation' (Bandura, 1977, p. 198). As a curriculum developed by teachers, with teachers in mind, and incorporating the feedback of teachers, we aimed to acknowledge and allow for the co-sharing of information to support positive efficacy-creating experiences.

Teacher self-efficacy has also been linked to increased student motivation and student achievement (Ross, 1995; Goddard et al, 2000; Thoonen et al, 2011), increased content knowledge (Evans, 2011) and positive curriculum implementation outcomes (Bandura, 1977; Fang, 1996; Tschannen-Moran et al, 1998; Goddard et al, 2000). When teachers have a high level of efficacy,

they believe that they can significantly influence students, thus, teacher self-efficacy affects the strength of the causal effectiveness of the curriculum implementation (Tschannen-Moran et al, 1998; Goddard et al, 2000). Consequently, teacher self-efficacy has been supported as an important construct related to teacher competency and critical to teaching performance, or, in this case, curriculum implementation (Goddard et al, 2000). Through increased self-efficacy, teachers may come to think of themselves less as dispensaries of information and more as facilitators engaging students within the context of current US economic challenges and debates.

Methods of Inquiry and Data Procedure

This study was an exploratory study with a small sample. It aimed to better understand what teachers' self-efficacy in teaching the federal budget, national debt and budget deficit was before we set up a rigorous design for comprehensive investigation. The study adopted a non-experimental design, which involved convenience sampling (see below 'Sample' section) without any random pre-selection processes, and no control group whose experience serves as a baseline against which the effects of treatment can be measured. We utilized a one-group pre-test/post-test design, whereby one of the measurements was taken on all subjects before and after the curriculum implementation (Gravetter & Forzano, 2011, pp. 292-293). The study employed a mixed-methods approach to collect data. Data sources consisted of a curriculum experience survey, pre- and post-self-efficacy surveys, and interviews. Besides teachers' demographic and professional experiences, the seven-item curriculum experience survey examined teachers' experiences with the design, content and instructional approach of the curriculum.

Self-efficacy measures an individual's confidence in his or her ability to perform a specific task to successful completion (Goddard et al, 2004; Bandura, 2006). In the process of developing the self-efficacy surveys, we conducted face and content validations of the survey to ensure the accuracy of the instrument.[1] Two separate groups of 17 college students and 21 current social studies teachers/experts completed the face and content validity. We designed the pre-self-efficacy survey to collect data to understand participating teachers' baseline self-efficacy in teaching economic and public policy topics at the beginning of the curriculum implementation, while the post-survey collected the same data after the curriculum completion.

The results of the pre- and post-surveys were used as a tool to measure changes in: (1) teachers' sense of topical knowledge confidence in teaching economic and public policy issues; (2) confidence in inquiry-based instructional skills in democratic-dialogue-focused lessons; and (3) expectations of participating in civic engagement activities. The survey used a scoring scale with a range of 0 'Strongly disagree' to 3 'Strongly agree'. Each subscale had three items.

All 24 teachers who implemented the curriculum were invited to engage in a 30-minute phone or face-to-face interview upon curriculum implementation completion. The interview protocol was aligned with the three domains of the survey to explore more nuanced details of the participants' curriculum experience and its impact on their self-efficacies. The interviews were recorded upon permission and subsequently transcribed. Table I summarizes our data collection.

Data	Valid		Missing		Total	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Experience survey	24	100	0	0	24	100
Self-efficacy survey (pre/post)	23	96	1	4	24	100
Interview	24	100	0	0	24	100

Table I. Summary of data collection.

Data Analysis

In this mixed-methods study, the quantitative data analysis took place primarily within the core of the study method strategies, while the qualitative data analysis was used for descriptive purposes with an inductive theoretical drive (Tashakkori & Teddlie, 2002, pp. 193-195). Therefore, the survey data were served a normative value, which must be available for the interpretation of the interview data. The interview data supplemented the survey data analysis by providing more depth

of understanding and including opinions that were not captured in the surveys. The interview data were transposed by coding from textual to numerical data so that they were integrated more firmly into the survey data findings to illustrate certain aspects and important context.

The initial quantitative data analysis entailed ensuring the accuracy of data entry. We examined the survey data and cross-checked after data entry. The survey data were screened for missing data, outliers and normality. We assessed the internal consistencies of the scales using Cronbach's alpha coefficients. The Cronbach's alpha reliability analyses indicated that the scales of the curriculum experience survey ($\alpha = 0.733$) and the self-efficacy survey for the pre-survey ($\alpha = 0.520$) had a very commonly used level of power, and the post-survey ($\alpha = 0.820$) had acceptable internal consistency (Cohen, 1977, p. 56). We used descriptive statistics to explore the characteristics of the participants, their curriculum implementation and their curriculum experiences.

In order to build baseline data for the curriculum participation effects on teachers' self-efficacy, descriptive statistics and paired sample *t*-tests were used to analyze the data. We relied on paired sample *t*-tests to compare the mean scores of the pre-post-efficacy surveys in order to see if the average difference between the two scores was statistically significant.

With respect to the interview data, we adapted basic processes of grounded theory (Birks & Mills, 2011). However, we conducted both deductive and inductive coding by utilizing ATLAS.ti to ground our analysis within the data. Preliminary data analysis used deductive codes that were based on the research and interview questions to break the data down into large categories. Thereafter, we conducted inductive coding to capture participants' experiences and thoughts from their perspective by searching for recurring patterns in their responses.

Sample

We adopted convenience sampling to recruit teacher implementers for the curriculum. The research team worked with public school district officials and principals across three cities to determine the viability of the study within these districts. During the spring 2011 semester, a total of 24 teachers implemented the curriculum in 12 schools and 56 classrooms across three pilot sites – Austin (Texas), New York City and Wyoming (Ohio), with nine, nine and six teachers from each of these cities, respectively. Out of the 24 teachers who implemented the lessons, 23 were white and one was Hispanic, two-thirds were female and one-third was male, and nearly two-thirds held a Master's degree. A little more than half of the teachers studied history or political science in college (54.1%), with only 8.3% of the teachers having majored in economics or finance. Regarding the number of years of teaching experience, more than half of the teachers had taught for less than six years (54.2%) (see Table II).

		Total (<i>n</i> = 24)	
		<i>n</i>	%
Gender	Female	16	66.7
	Male	8	33.3
Ethnicity	White	23	95.8
	Hispanic	1	4.2
Highest degree attained	Bachelor	7	29.2
	Master	15	62.5
	Doctorate, professional	2	8.3
Undergraduate major	Comprehensive social studies, Sociology	5	20.8
	Economics, Finance	2	8.3
	Geography	2	8.3
	History	8	33.3
	Political Science	5	20.8
	Education	2	8.3
Number of years of teaching experience	Less than six years	13	54.2
	Six years and more	11	45.8

Table II. Sample characteristics.

The teachers implemented the curriculum in a variety of ways. The majority of teachers taught the lessons in non-Advanced Placement (AP) or non-Honors eleventh- and twelfth-grade classrooms. The number of classes in which economics, world history and US history were taught was comparable, hovering around slightly more than a quarter of the classes for each subject. The teachers implemented the curriculum in a range of periods. Teachers taught lessons most frequently within one period (58.3%) or two periods (35.2%), and few teachers taught the lessons over three to five periods (see Table III).

		<i>n</i>	%
Grade level (<i>n</i> = 24)	8	3	12.5
	9	4	16.7
	10	4	16.7
	11	6	25.0
	12	7	29.2
Specific Understanding Fiscal Responsibility lesson(s) taught (<i>n</i> = 24)	Civics/ Government	3	12.5
	Economics	6	25.0
	US History	6	25.0
	World History	5	20.8
	Combined: US History and World History	2	8.3
	Combined: Economics and World History	1	4.2
Type of class lesson(s) taught (<i>n</i> = 24)	Combined: Civics/ Government and US History		4.2
	Advanced Placement (AP)	5	20.8
	Honors	1	4.2
	Combined: Honors and AP	1	4.2
	Not AP or Not Honors	15	62.5
Total number of classes that experienced lessons over range of periods (<i>n</i> = 108)*	Advancement Via Individual Determination (AVID)	2	8.3
	One period	63	58.3
	Two periods	38	35.2
	Three periods	2	1.9
	Four periods	1	.9
	Five periods	4	.37

*Some teachers taught more than one class.

Table III. Curriculum implementation.

Findings

In this section, we answer the study's four research questions.

Teachers' Perception of the Curriculum

Almost three-quarters of the teachers reported that they understood the lesson goals and that the lessons matched their abilities to deliver the intended content. All 24 teachers indicated that the focus on inquiry-based instruction was appropriate for the federal budget, national debt and budget deficit topics taught. About 96% of the teachers reported being able to facilitate their students' active engagement and processing of these topics. The significant majority felt that the amount of time suggested was practical for inquiry-based instruction (81.5%). However, 37% of the teachers noted that there was not sufficient background information that supported their teaching of the topics, and 44.4% of the teachers reported that the lessons were inappropriate to students' background knowledge and readiness (see Table IV).

The interview data explained why the teachers were able to understand and implement the lessons comfortably. Twenty out of the twenty-four teachers reported not having faced any challenges interpreting the lesson components and found the lessons straightforward, clearly laid out and easy to follow:

I feel that in all of the lessons that, um, there were clearly defined terms and concepts for the students to learn. What was great about it was that each lesson wasn't trying to do too much ... it was a clear goal set.

I think it was pretty straightforward. I mean, it was a good essential question in my school, you know, sort of the practices they want you to frame your aims as a how or a why question. Your question was framed as a should question, which is fine, because it's debate and they already had the how or the why question in prior lessons, so it got them thinking about budget and fiscal issues.

	Strongly agree		Agree		Disagree		Strongly disagree	
	n	%	n	%	n	%	n	%
The sequence of objectives, contents, instructional approaches and activities in the lessons was clear to understand/implement in class.	6	22.2	13	48.1	8	29.6	0	0
The lesson design matched my ability to deliver the intended learning outcomes of the course.	6	22.2	14	51.9	6	22.2	1	3.7
The lessons included appropriate background information that supported teaching the federal budget, national debt and budget deficit topics.	3	11.1	14	51.9	4	14.8	6	22.2
The lessons were appropriate to students' different background knowledge and/or readiness.	0	0	15	55.6	10	37.0	2	7.4
Inquiry-based instruction (for example, asking open-ended questions or examining problems/issues in-depth) was practical for the amount of lesson time I had.	4	14.8	18	66.7	5	18.5	0	0
Inquiry-based instruction was appropriate for the federal budget, national debt and budget deficit topics.	7	25.9	20	74.1	0	0	0	0
The facilitation of my students' active engagement and processing of the federal budget, national debt and budget deficit topics during lessons was feasible.	5	18.5	21	77.8	1	3.7	0	0

Table IV. Curriculum experience.

The teachers also explained during the interviews why they enjoyed the focus on inquiry in the lessons and felt comfortable with facilitating the inquiry approach:

I liked a lot of the discussion questions ... I guess the first one I come to is the Media Literacy, where it says, 'Which story did you find most interesting? Which recent news story have you followed with the most interest? What characters make the story interesting?' It's, like, really basic, but it was nice to just have those there because it's going to get me thinking about what questions I want to ask the kids. Those questions were pretty straightforward, but I feel like there was – and often I read through the discussion questions and thought, 'Okay, that'll be good'.

They [the lessons] were useful because they're [the students] weighing the cost benefits, they're asking questions. They're thinking about what's most important to them – so in having them do that with the group, for example, the background information on Social Security and Medicaid, as they were going to present as a group, because I made them do a presentation and create a quick poster, so they had to reach a consensus. So in doing that they would have to express their opinions and prioritize what information they thought was important.

As stated above, 37% of the teachers noted that there was not sufficient background information that supported their teaching of the topics. In the interviews, 10 teachers explained it was because they felt they did not have the appropriate background information or training in economics to teach specific content:

I don't feel like I have a strong background in economics at all. So, I definitely had to do a lot of extra reading [*laughs*] to do these lessons.

I taught that one such a long time ago. I just remember I had to go look up a few things ... Um ... it's been such a long time now. I'm looking back at it right now ... So, I'm trying to remember what I actually ... what I looked up.

As to why the teachers felt the lessons were inappropriate to the students' background, 15 teachers explained that the students had insufficient background knowledge in the topics that were covered. The teachers had not previously taught the topics covered in the lessons, hence the students did not have the sufficient prior knowledge to grasp the content of the lessons. In other cases, the students simply did not read widely enough to be aware of information and ideas such as the World Bank or Social Security. Furthermore, the students did not have any foundation in essential concepts undergirding the lessons – like capitalism or taxation – and in the event that they did have some ideas, their grasp of information was too rudimentary to support an in-depth analysis of the lesson content:

In terms of content, they didn't have any background. Nobody knows what the World Bank is or even how a credit card works, so you are starting from the ground up, and I think the lessons give a good enough scaffolding to help students understand the basics, but you need to have teachers that know how to teach this information. But the reality is that to teach this stuff and get students to where you want them, you need a couple months. You need a couple months, and that takes time to have deep conversation and you have to get them to other points of meaningful analysis.

They just didn't seem to have the – you know, they had the history knowledge, but they didn't have the economics knowledge I thought they probably should have had.

Further, the dense language in the lessons meant that the students did not have sufficient vocabulary to grasp the meaning of readings, nor were they familiar with the content's frames of reference:

I think that there was a lot of vocabulary they maybe heard but didn't know what it meant. They had a lot of questions ... every time they did a read, I had them circle or underline the words they didn't know, and then I would split the words they didn't know into two categories: words that relate to fiscal ideas and words that are just good vocabulary words to know.

Overall, in view of the dynamic and contemporary nature of the topics, the teachers found it helpful that resource materials were readily available, as their textbooks do not feature the most up-to-date news. The teachers were able to make use of the group activities to engage students in thinking critically about the topics. Thus, it was not difficult for them to adjust to the expectations of the lesson. However, the teachers also reported that it was not easy to teach these complex topics to those students who had little background information in economics since it was difficult for those students to think critically.

Teachers' Self-Efficacy Changes in Topical Knowledge

On average, the teachers increased in their confidence level in including current economic and public policy issues and news in class. However, all items are not statistically significant at an alpha level of 0.05 (see Table V).

Item	M		SD		<i>t</i>	df	<i>p</i>
	Pre	Post	Pre	Post			
I am able to include current economic and public policy issues and news from outside school in my social studies class.	2.59	3.00	1.05	0.00	-1.821	21	.083
I am able to explain the concepts of the federal budget, national debt and budget deficit clearly to my students with examples of real-life scenarios.	3.00	2.87	0.00	0.63	1.000	22	.328
I am able to analyze economic and public policy options related to the federal budget, national debt and budget deficit.	3.00	2.61	0.00	1.03	1.817	22	.083

Table V. Self-efficacy changes in topical knowledge.

In the interviews, the teachers explained that the topics covered were naturally complex and confusing, hence requiring more background information to teach the lessons:

With the federal budget and federal revenue, I didn't feel as comfortable as I did with, say, the Social Security and Medicare ... you know, looking at the balanced budget, I think I would have not known as much about that one as I did the others, simply because it happened in the '80s and I, you know, really have never studied that much of the 1980s, so ... you know, Social Security and Medicare was fine with me. But the federal budget and federal revenue I had to look up some things for sure, to kind of make sure I was comfortable enough.

On the other hand, experienced teachers with more than six years of experience, who might not have had an economics degree or taught these exact topics together, explained that they were able to comfortably deliver the lessons as a result of their own teaching experiences, background knowledge and personal interests:

I've taught social studies for 24 years, and it's, it's been some time since I've taught government, but the kind of discussions about economics issues, deficit spending – those are things I deal with on an annual basis.

I think it was – you know, it's hard to compare because I don't sort of know where other teachers are at. My background is, I have a law degree, and I also tend to really, you know, try to stay on top of current events and issues that are related to economics and politics as I'm teaching this course. So, for me, I felt it was in line with my background knowledge.

In a similar vein, one teacher explained that when she first reviewed the lessons, she thought that it would be extremely challenging to implement the lessons. However, after having prepared for and taught the lessons successfully, she felt that there was no doubt she would be able to teach these lessons:

The first time I glanced through the lessons, I thought I could easily fit them in and I agreed to do it, and then I read through them and I had a moment of, 'What did I get myself into?' I would have done the Social Security lesson and the Weimar lesson but I would have walked away from the other lessons, because I didn't have the firm grasp on the content. Now I don't have the doubt, since I did the lesson and I answered their questions on inflation.

Overall, the teachers' curriculum implementation experience had no effect on their confidence of topical knowledge in teaching economic and public policy issues. These results indicated that given the complexity of these topics, it was also hard for teachers to understand the content knowledge. A plausible reason for the absence of a statistically significant change in teacher self-efficacy in topical knowledge may be due to the idea of teachers learning about what they did not previously know. In particular, newer teachers, who had fewer than six years of teaching experience, felt less confident than before in explaining the concept of the federal budget, national debt and budget deficit to their students with examples of real-life scenarios:

Some of the terms I knew all, what all the terms meant, but to be able to, kind of, have a con-, a con-, or not even a concrete, a more abstract conversation with the kids about it, I needed to do some homework. And I've taken micro and macro in college. I've taught economics. But in terms of this particular lesson, I kind of felt like I needed to, kind of, go outside.

Teachers' Self-Efficacy Changes in Inquiry-Based and Democratic-Dialogue-Focused Instruction

On average, the teachers experienced statistically significant increases in their comfort level in providing opportunities for their students to voice their opinions about issues related to the topics ($t [21] = 2.247, p = .036$, 2-tailed). However, there were no statistically significant changes in their comfort with group activities or using open-ended questions to engage students in class (see Table VI).

Most of the teachers in the interviews mentioned a reason for the absence of a significant change in teacher self-efficacy in group activities and engaging students. They believed that group activities and asking questions were approaches they were used to, hence the lessons did not change their teaching style drastically as they continued with group activities and discussion. As

indicated in the above section, the teachers appreciated having lesson plans that clearly laid out the objectives of the lessons, as well as activities which fostered independent or group learning. Furthermore, the teachers reported that students enjoyed their discussions tremendously as they were supported to engage in thinking about issues from various perspectives and came across issues that they had never encountered before.

Item	M		SD		<i>t</i>	df	<i>p</i>
	Pre	Post	Pre	Post			
I am comfortable with using group activities during my social studies class.	2.57	2.35	0.59	0.57	-1.742	21	.096
I am comfortable with using inquiry-based instruction (for example, asking open-ended questions or examining problems/issues in-depth) to engage my students during my social studies class.	2.57	2.42	0.59	0.50	-0.901	22	.377
I am comfortable with providing opportunities for my students to voice their opinions about issues related to economic and public policy (for example, debt, deficit and budget) during my social studies class.	1.91	2.33	0.87	0.48	2.247	21	.036*

**p* < .05.

Table VI. Self-efficacy changes in inquiry-based and democratic-dialogue-focused instruction.

Six teachers felt that the lessons included activities and questions which encouraged students to speak up. Further, as the topics were controversial and the students came from different backgrounds, this surfaced a lot of different questions and opinions from the students. Compared to the experienced teachers who had taught for more than six years, the newer teachers reported gaining more confidence in getting their students to voice their opinions during class. Two notable quotations from the participants indicated that the lessons supported teachers with critical thinking and probing in-depth:

[The lessons were] really good for critical thinking because they all had to actually sit down and think about what they read, then apply it to whatever the activity was asking. So, you're taking multiple steps from then. You're forced to articulate their opinions and voices from what they already knew, so prior knowledge, then, working with the new materials that they had to combine and answer questions. So it was really good for their critical thinking skills.

It really explains, I think, how to maybe think about certain of these concepts and topics, and they gave, you know, good suggestions for how to structure lesson activities. There were some surveys, I believe, that were a part of the resources of people's opinions about Social Security programs that, I think, was great.

In sum, the teachers experienced significant increases in their confidence level in providing opportunities for their students to voice their opinions about issues. The teachers were able to make use of the group activities to engage students in thinking critically about the topics. Furthermore, the teachers reported gaining more confidence in getting their students to engage in critical thinking during class.

Teachers' Self-Efficacy Changes in Their Participation in Civic Engagement Activities

All of the teachers' perceptions of participating in civic engagement activities were significantly enhanced after their implementation of the curriculum. In particular, the teachers believed more than before that as citizens they could make a difference in society with their actions ($t [22] = 2.732$, $p = .012$, 2-tailed). In addition, they felt more confident that their participation in electoral ($t [22] = 8.781$, $p = .000$, 2-tailed) and civic engagement ($t [22] = 13.296$, $p = .000$, 2-tailed) activities would create positive changes (see Table VII).

This finding indicated that by teaching students the federal budget, national debt and budget deficit and facilitating inquiry-based and democratic-dialogue-focused lessons in class, the teachers heightened their self-efficacy in participating in civic engagement activities and influencing public

policies. The significant majority of teachers reported success in facilitating the processing of these topics and their students' active engagement (see Table IV). This result revealed that the curriculum components, such as essential-question-driven, inquiry-based and democratic-dialogue-focused, had an impact on the teachers' sense of their own self-efficacy in participating in civic engagement.

Item	M		SD		<i>t</i>	df	<i>p</i>
	Pre	Post	Pre	Post			
I believe that as citizens we can make a difference in society with our actions.	1.87	2.42	0.82	0.50	2.732	22	.012*
I am confident that my participation in electoral activities (for example, voting, volunteering for a political campaign) will create positive changes.	0.39	2.12	0.50	0.74	8.781	22	.000*
I believe that by participating in civic engagement activities which address issues related to the federal budget, national debt and budget deficit we can make a positive change.	0.35	2.33	0.49	0.57	13.296	22	.000*

* $p < .05$.

Table VII. Self-efficacy changes in participation in civic engagement activities.

Preparing and supporting teachers to integrate rich knowledge within a classroom climate that allows for discussion of controversial topics is critical in improving civic engagement (Torney-Purta, 2002). Through teaching the federal budget, national debt and budget deficit, and their own experiential learning process, the teachers could boost their self-efficacies, enthusiasm and predisposition to civic engagement. The magnitude of these changes speaks to the significant benefit of the curriculum in promoting teachers who are more personally empowered to engage with the most widely debated and controversial topics in current US economic and public policy. The findings suggest that there is a high degree of relationship between teachers' experiences in facilitating democratic-focused lessons and their personal commitment to civic engagement.

Discussion

While most studies seek to understand the impact of lessons and curriculum on students, this study concentrated on the invaluable facilitators of those lessons – the teachers. The positive effects of teacher self-efficacy on content knowledge and instruction, student outcomes and curriculum success serve as evidence of the vital link of the teacher. This study's findings indicated that, overall, the teachers' experience with the curriculum led to an increase in their confidence and comfort in facilitating democratic-dialogue-focused instruction and their perception of participation in civic engagement activities. By explicitly teaching economic and public policy topics that are current and complex, and engaging in lessons about the federal budget, national debt and budget deficit, teachers' self-efficacy in their pedagogy of these topics can be enhanced.

Facilitating democratic dialogue and engaging in economic and public policy topics in class can, in turn, predict teachers' self-efficacy in civic engagement. This study supports the importance of teachers' self-efficacy in facilitating discussions around controversial topics, supporting critical thinking and creating an open classroom climate (Torney-Purta, 2002), which promotes teachers who are more personally empowered to engage in civic activities. The statistically significant findings on increased comfort in facilitating democratic dialogue and positive perception of civic engagement activities among the teachers can be viewed as critically important, especially given the controversial nature of the federal budget, national debt and budget deficit in current US policy debates.

The strongest impact of the curriculum was found in the increase of teacher self-efficacy in civic engagement activities. Specific items measured were the perception of teachers in their ability to make a difference in society, that their electoral participation will create change, and that participating in civic engagement activities which address the federal budget, national debt and budget deficit can make a positive change. We hope that the teachers' self-efficacy can help them

have a greater voice in community affairs, be more confident about their personal efficacies in civic engagement and increase their chances of engaging in civic issues.

However, the teachers' experience did not lead to a gain in topical knowledge self-efficacy. Potential reasons for why no changes in knowledge self-efficacy were found could be due to a sense of lacking control over their own understanding of the issues. In fact, the teachers did not have any professional development, which would have allowed them to move to a greater level of knowledge mastery (Cochran, 1995). Such professional development activities can support strategies to increase teacher self-efficacy (Jamil, 2012) since teachers' content knowledge and instructional approach are intimately intertwined.

Conclusion

Improving the economic literacy of high school teachers remains the best way to reach targeted high school students, as teachers need to understand economic concepts to effectively convey economics education (National Association of State Boards of Education, 2006). However, the challenges to engaging these high school students are many: few social studies teachers have significant formal training in economics; many pre-service programs do not place an emphasis on economics; and current curriculum standards do not adequately address economic issues (Walstad, 1992; Salemi et al, 1996; VanFossen, 2000; Joshi & Marri, 2006). The pilot curriculum used in this study is designed to help high school teachers teach the federal budget, national debt and budget deficit. Ideally, the essential-question-driven, inquiry-based and democratic-dialogue-focused lessons and related resources may help teachers build some confidence and willingness to engage in these topics with their students.

While this study's data did not indicate that the participating teachers increased in their topical knowledge confidence level, the teachers experienced a statistically significant increase in their comfort level in providing opportunities for their students to voice their opinions about issues related to the topics.

Low awareness of economic issues will reduce civic engagement in citizens (Becker, 2000; Schug & Wood, 2011). Scholars argue that an understanding of economic concepts (Becker, 2000; Miller & VanFossen, 2008; Schug & Wood, 2011) and discussion of current affairs (Niemi & Junn, 1988) support the acquisition of public policy knowledge and, ultimately, can promote active citizenship in a democratic society. We believe that adolescents with a more informed perspective about the federal budget, national debt and budget deficit will demand better decisions from their elected leaders.

It is imperative that teachers stimulate a democratic dialogue among young people about the federal budget, national debt and budget deficit, enabling them to grapple with their complexity, as well as the competing agendas and conflicting values that shape public policy. This study shows that high school social studies teachers may gain self-efficacy and be engaged in working on these topics with their students. With a deep understanding of these topics, students will be empowered to demand capable leadership and effective solutions to fiscal challenges faced by the nation.

Note

[1] Face validity refers to the issue of whether or not the items are measuring what they appear to measure, while content validity refers to conceptual inspection of the fit between each item's content and its target domain. Content validity is formally determined and reflects the judgments of experts on the content or competencies assessed by the test, whereas face validity is an impression of the test held among non-experts (for details, see Shrock & Coscarelli, 2007).

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