

IMPACT OF BACKWARD ASSESSMENT AND GUIDED REFLECTION ON SOCIAL STUDIES EDUCATION: A FOUR-STEP TEACHING CYCLE

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Abstract

The study is to examine if preservice teachers improve their social studies teaching and learning when they follow a structured and guided methods course based on the four-step social studies teaching cycle. The four steps are 1) preinstructional exploration, 2) assessment development, 3) instructional development, and 4) reflective extension. The study investigates the impact of “backward” assessment and guided reflective practice on preservice teachers’ social studies teaching and learning. The subjects of the study were teacher education students enrolled in a social studies methods course. The study used the reflective writings to explore the impact of “backward” assessment development and guided reflective thinking skills on their social studies teaching and learning. The results showed significant improvement in participants’ teaching and their students’ learning after they adopted “backward” assessment and guided reflective practice.

Social studies methods instructors have tried to utilize various pedagogical strategies, including modeling, to demonstrate exemplary social studies teaching to their preservice teachers. Social studies education courses can transform preservice teachers from managing to survive every class to enjoying the interaction with their students and having them engaged in instructional activities.¹ Current trends in preparing preservice teachers to teach social studies include standards-based instruction, performance-based assessment, backward design, guided inquiry in searching for resources, reflective practice, and integration of technology and teaching.²³⁴⁵⁶⁷ For this study, a four-step teaching cycle is developed based on the trends of teaching social studies mentioned above. The study examines if participating preservice teachers report improved social studies teaching and learning after they have followed the four-step teaching cycle.

Backward Design

In the book, *Understanding by Design*, Wiggins and McTighe described “backward” design as the most effective curricular process.⁸ Backward design starts with the end, the desired

results (goals, objectives, and/or standards), determines the acceptable evidence of learning (assessment) called for by the result, and then plans learning experiences and instruction. This view of backward lesson design is not radical or new. Backward design may be thought of as purposeful task analysis. Wiggins and McTighe urged teachers to think like assessors, not activity designers. Maryland Assessment Consortium (MAC) has developed a professional development program based on Wiggins and McTighe's backward assessment for learning.⁹ Through backward assessment, the teachers can focus on achieving instructional objectives, i.e., student learning rather than covering the curriculum.¹⁰ Trimble also supports "backward" instructional design that includes: 1) monitoring student learning frequently using multiple assessments that are linked to standards and objectives before instructional activities, 2) using performance criteria and benchmarks to help students expect their final measurable outcomes, and 3) analyzing assessment data to check student learning.¹¹

Usually, teachers are trained to think in terms of a series of activities or of how best to cover a topic, and then to think about assessment at the end once teaching is completed. In the backward approach, teachers need to operationalize their goals and/or standards in terms of assessment evidence as they begin to plan a unit or course.¹² Within teacher education programs, however, limited attention is given to developing teachers' knowledge of assessment and evaluative skills in the context of the curriculum; consequently, teachers are inadequately trained in assessment procedures.¹³ An effective way to provide these experiences is through modeling assessment strategies in teacher education classes.¹⁴

Traditionally, assessment in social studies focuses on exams, tests, quizzes, textbook exercises, and essays.¹⁵ Sometimes, the assessment process has not been connected to the objectives: most of the time teachers wait until the activities are done to assess or evaluate the

students.¹⁶ Campbell and Evans suggest that preservice teachers' attitudes and beliefs about assessment also greatly affect their use of assessment.¹⁷ Thus, the social studies methods instructor faces the daunting task of overcoming misconceptions of assessment and convincing preservice teachers that the assessment needs to be planned when the objectives and prior knowledge of the topic are explored.¹⁸ Many teachers who have adopted the "backward" design approach reported that the process of "thinking like an assessor" about evidence of learning helped them to clarify their goals, and resulted in a more sharply defined teaching and learning target.¹⁹

Inquiry-based Inductive Learning Cycle

The sequence of activities in a social studies education course usually begins with the exploration of new social studies information, skills, and/or attitudes. This exploration "leads to a more guided examination of the idea, skill, or attitude, perhaps through inquiry".²⁰ In inquiry-oriented reflective practice, confirmation activities require students to verify concepts through a given procedure. There are several types of inquiry activities. *Structured* inquiry activities provide students with a guiding question and procedure to follow. *Guided* inquiry activities provide students with a guiding question and suggested materials; the students design and direct the investigation.²¹ *Open* inquiry activities require students to generate their own research or reflective question and design their own investigation.²²

Based on the inquiry-oriented practice in preservice teacher education programs, Sunal and Sunal introduced a three-step learning cycle: 1) exploratory introduction in which a question or an objective is identified, 2) development in which a working hypothesis is formed in response to a problem/objective and data (information) related to the hypothesis is gathered and evaluated, and 3) expansion during which the generalization constructed from the inquiry is

applied and tested in further contexts. This inductive approach of applying information processing models has been called the learning cycle.²³ It is compatible with developmental studies involving students, information processing studies examining the function of the brain, and constructivist approaches to learning.²⁴

Framework for the Study: A Four-Step Teaching Cycle

For this study, based upon Sunal and Sunal's three-step learning cycle and Wiggins and McTighe's backward design, a researcher developed a four-step teaching cycle as a framework. It is called "teaching cycle" rather than "design" or "learning cycle" because the four steps are for teachers to complete in each teaching.²⁵ In the process of completing a teaching cycle, a lot of planning and learning must occur to move successfully from one step to the others. Thus, the word "teaching" is more inclusive as a descriptor of what preservice teachers need to plan and implement their teaching.

The concept of knowing the desired result and the acceptable evidence before the instruction was adopted from Wiggins and McTighe's "backward" design. However, their backward design had no step for extended reflection, a step needed to close the teaching cycle. In Sunal and Sunal's learning cycle, terms such as "exploration", "development", and "extension" were adopted for the teaching cycle. In Sunal and Sunal's learning cycle, the "backward" assessment concept was missing. In their learning cycle, the assessment step was blended into the development stage but did not specify the importance of the assessment developed before the instruction. The Renaissance partnership teacher quality work plan was also used to describe each of the four steps.²⁶ Although it does not have a theoretical framework (see Table 1), Renaissance partnership's work plan does have ideas similar to the four-step teaching cycle.

Step 1 is preinstructional exploration. In this stage, preservice teachers diagnose their knowledge of community, school, classroom, and students, assess students' prior knowledge, and set challenging and significant learning objectives aligned with standards, e.g., state social studies standards, and National Council for the Social Studies (NCSS) standards.

Step 2 is assessment development. Preservice teachers establish a working hypothesis, respond to the result, and develop assessment strategies to meet the objectives in Step 1. They develop multiple assessment modes and approaches aligned with learning goals and objectives.

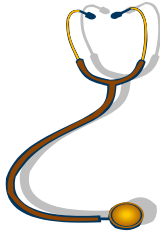
Step 3 is instructional development. Preservice teachers strive to search for a variety of instructional activities, assignments, and resources to help the students engage. They start gathering assessment data using the assessment strategies developed in Step 2. They create a learning environment that encourages social interaction and self-motivation.

Step 4 is reflective expansion. In this stage, preservice teachers implement more assessments if more assessment data is needed. They reflect on how their objectives or hypotheses are met and/or supported with the assessment data. Reflection helps the preservice teachers generate more thought about their teaching performance based on the assessment data, and connect initial expectation and/or objectives with the outcomes.²⁷ They interpret the assessment result and communicate information about student progress and achievement.

Generalization may be constructed during this stage and tested in further contexts. Figure 1 illustrates a participant's work samples as examples for each of the four steps.

Figure 1

Four-Step teaching cycle with examples from American Revolution Lesson, George vs. George



Step 1. Pre-Instructional Exploration:

Map-quest on England and 13 colonies in the 18th century, Quiz on American Revolution.

Objective; Students will compare and contrast King George and George Washington on:

Washington on:

- their family lives
- where they lived
- government systems



Step 2. Assessment Development:

Venn diagram with at least 3 similarities and 3 differences between King George III vs. George Washington on:

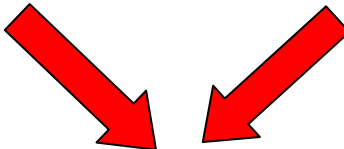
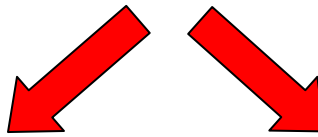
- their family lives
- places they lived
- government systems



Step 3. Instructional Development:

Resources: *George vs. George* by Rosalyn Schanzer, Internet resource, <http://lcweb2.loc.gov/ammem/bdsds/timeline.html>,

Strategies: cooperative, and inquiry & problem-based activities, assessment data collection from the Venn diagram



Step 4. Reflective Expansion:

Guided reflection of how the result, Venn diagram (assessment data) meets the objective and how to apply this result in a future context



Table 1

Description of Four-Step Teaching Cycle

Steps	Description of Stages
Step 1. Pre-Instructional Exploration	<ol style="list-style-type: none"> 1. Diagnose teacher ' s knowledge of community, school, and classroom, and characteristics of students, students ' learning styles and their prior knowledge; 2. Identify the questions and/or problems from #1; 3. Set significant, challenging, varied and developmentally appropriate learning goals and objectives aligned with national, state or regional standards;
Step 2. Assessment Development	<ol style="list-style-type: none"> 1. Develop multiple assessment modes and approaches aligned with learning goals and objectives; 2. Create multiple modes and approaches of assessment to meet individual needs of diverse students; 3. Adopt self-evaluation, objective tests, scoring rubrics for writings and projects to measure the student learning; 4. Clarify the criteria to measure the outcomes aligned with the behavioral objectives;
Step 3. Instructional Development	<ol style="list-style-type: none"> 1. Create learning environment that encourages social interaction, active engagement in learning, and self-motivation; 2. Design instructional activities aligned with specific learning goals, students ' needs, and learning contexts; 3. Organize the lessons in a way students understand; 4. Use a variety of instructional activities, assignments and resources; 5. Use contextual information and research data to select appropriate and relevant activities, assignments, and resources; 6. Incorporate technology; 7. Monitor students ' learning; 8. Collect assessment data;
Step 4. Reflective Expansion:	<ol style="list-style-type: none"> 1. Check if the assessment tools are aligned with learning objectives; 2. Interpret the assessment result accurately; 3. Use assessment data (evidence) to profile student learning; 4. Communicate information about student progress and achievement; and 5. Apply the instructional process where the generalization is constructed during the inquiry, and test it in future contexts.

Challenges

Reform documents call on teachers' inquiry as a central strategy of their social studies teaching.²⁸ Yet, inquiry-oriented and guided instructional planning is not widespread despite of recurring calls for it across disciplines over several decades.²⁹ Very little research has been done regarding the effects or effectiveness of "backward" instructional planning as a venue to inquiry-oriented planning for preservice teachers trained to be social studies teachers.

A social studies methods course was designed to adopt an inquiry-based and guided four-step teaching cycle (see Figure 1 and Table 1). The students enrolled in the social studies methods course are asked to adopt the four-step teaching cycle when they develop instructional materials.

Goals of Study and Research Questions

The goal of the study is to examine if a social studies methods course that is designed based on a four-step teaching cycle (see Table 1) can impact preservice teachers' social studies teaching and learning. Two questions are asked to examine if the backward assessment (i.e., step 2) and reflective practice (i.e., step 4) the participants had in the course had impact on their teaching and learning. The two questions are:

1. How has developing the assessment strategies before instructional development helped preservice teachers improve their social studies teaching and learning?
2. How has the preservice teachers' guided reflection about their teaching played a role in improving social studies teaching and learning?

Methods

Participants

Participants were thirty-seven teacher education students who took a social studies methods course in fall 2005 and spring 2006. Among the participants, thirty-four were females

and three males; three-four were white and three black. All of the participants were seniors, and all were elementary education majors. Thirty-seven participants completed the written reflection on the impact of “backward” assessment strategies in fall 2005 (N = 16) and spring 2006 (N = 21) (Question 1). Twenty-one of thirty-seven participants wrote on guided reflective practice because this was the additional reflective writing they needed to do in spring 2006 (N = 21) (Question 2).

Instruments

The participants responded in writing to a question, “How has developing the assessment strategies before instructional development helped preservice teachers improve their social studies teaching and learning?” A second question was added in spring 2006, “How has the guided self-reflection about their teaching played its role in improving social studies teaching and learning?”

Procedure of Social Studies Methods Course

White argued that courses purposefully designed with student engaging activities can prepare students for successful teaching and learning experiences within the classroom.³⁰ For this study, a social studies methods instructor purposefully designed a course “backward” and developed a four-step instructional planning cycle (see Figure 1 and Table 1).³¹ The students in this course were mostly seniors one semester away from student teaching . They have taken courses in lesson planning, foundations of education, and educational psychology. However, they have not taken any assessment course because their teacher education program does not require taking it.

The instructor/researcher designed a social studies methods course based on the four-step teaching cycle, 1) exploration of prior knowledge and objectives, 2) development of assessment

strategies, 3) development of instructional strategies, and 4) extension of reflection with assessment data. The instructor followed the teaching cycle when she planned the course and implemented the instructional activities (see Table 1).

The students also needed to create their instructional design based on the four-step teaching cycle (see teaching samples in Figure 1). For example, in the lesson plans the students needed to state the desired results (preassessment, objectives, and social studies standards), and assessment strategies, i.e., multiple choice items and the scoring rubrics, followed by instructional procedures. Then, the students wrote the reflection on their teaching based on the result of the assessment. The guidelines were provided for the reflective writings. The guidelines were developed by the researcher based on *Beginning Teaching Portfolio Handbook* by Foster, Walker, and Song, and posted them in the course site, e.g., Blackboard (Table 2a).³² The reflective writings for their teaching performance were reviewed by peers and the instructor to reinforce their writing rather than giving the final grade.³³

Table 2
Guidelines for Reflective Essays

a. Guidelines for Teaching Performance	b. Guidelines for Standards-based Portfolio
1. How were students informed of the objective(s)?	1. Include an exact wording or copy of the particular teaching standard listed prior to reflection.
2. Describe the degree to which you feel you accomplished your objective. What specific evidence do you have to prove that your students have achieved the objectives?	2. Include a brief explanation of your understanding of the standard, i.e., quality indicator (QI) and sub-standards, i.e., performance indicators (PI).
3. What happens to your voice? Is there enough inflection?	3. Identified artifacts, which do not require extensive analysis or reflection.
4. What did you do to set the environment or climate for learning?	4. Include brief, clear descriptions of teaching moments and experiences with reference to artifacts that reveal your success in meeting the requirements of that teaching standard.

<p>5. Analyze your questioning techniques and activities you used in order to check the levels on Bloom's Taxonomy, wait time, your response to student answers, and the students' engagement in the activities?</p>	<p>5. Provide rationale in relevance to each artifact:</p> <ul style="list-style-type: none"> • How does it connect to the standard and sub-standards? • How do the artifacts for the standard prove that you have competence in knowledge, skills and dispositions of this standard? • What are the evidences that your students have achieved your objectives?
<p>6. How well did you involve all students in the lesson?</p>	<p>6. Connect the reflection to the accepted learning theory.</p>
<p>7. What are the community resources you have used for this lesson to meet the students' needs?</p>	<p>7. Describe the partnership activities you have had in the process of developing these artifacts.</p>
<p>8. What other resources and/or collaboration have you had for this lesson?</p>	<p>8. Describe if you involve any community resources into your instructional materials (artifacts).</p>
<p>9. With what were you most pleased?</p>	<p>9. Identify the strengths and weaknesses of your instructional artifacts and describe what, and how you would create and utilize your artifacts better.</p>
<p>10. With what were you most displeased? What will you do differently next time</p>	<p>10. Explain and emphasize how you meet or exceed the particular standard overall.</p>

The following illustrates one participant's reflection on how she has accomplished her objectives (see #2 in Table 2a) on Colonial America in her site teaching.

The students split into groups with the roles for each member and collected information from the materials provided and summarized the information in the form of a brochure on Colonial America. The students also used the computers that were located in the back of the room to find illustrations on Colonial America. They also had assessment scoring rubrics for the brochure before they started collecting information. All of the groups produced the brochures with all the criteria met. ... eighteen of twenty students (90 percent) received 100 percent on the ten-question quiz, and one student even wrote in

some facts from the presentation on the bottom of the quiz. The two students who had one incorrect answer were retaught individually. (Spring, 2005)

The following is another reflective writing sample on how a unit on the American Revolution provides evidence of participant's social studies content knowledge (see #4 in Table 2b).

Development of a unit plan for the American Revolutionary War required strong content knowledge. Therefore, I chose the unit plan to demonstrate my ability to meet the social studies content standards. The unit plan contained specific objectives and NCSS themes (e.g., Theme 2: Time, Continuity, and Change and Theme 6: Power, Authority, and Governance). The unit has connected the topics of the Revolutionary War with the global society as well as with the overall development of the United States. ... For example, one of the objectives in the Bill of Rights lesson required the students to validate the picture used to describe a particular amendment of the Bill of Rights. I, as a preservice teacher, must possess a strong understanding of the individual amendments and their effect on society in order to convey a clear explanation to the students. I enhanced my content knowledge of the Revolutionary War by reading classroom textbook and trade books, and searching the Internet. By doing so, the students would possess enough knowledge of the subject to meet the particular objectives of the lesson. ... Activities such as debates, illustrated posters and timelines created meaningful learning experiences for the students. ... These activities demonstrated my understanding of the tools of inquiry and engaged students in divergent thinking. (Spring, 2005)

Results

First, the researcher read all of the reflective writings from the participants and then used QSR N6 to analyze the results of the research questions 1 and 2.³⁴ QSR N6 is qualitative data analysis software. The researcher imported participants' statements on the impact on backward assessment and guided reflection into QST N6. Then, the researcher provided the key words, e.g., objectives and guided reflections, and the QSR found the text units that contained these words.

Focus and **objectives** are the key words provided to explore the result of backward assessment (Question 1) and **guided, guidelines** are the key words provided to get the result for guided reflective practice (Question 2).

Question 1. How has developing the assessment strategies before instructional development helped preservice teachers improve their social studies teaching and learning?

In the social studies methods course, the participants were to develop their site teaching lesson plan based on the four-step teaching cycle (see Table 1). They had to create their assessment plan, e.g., objective tests and/or assessment rubrics, and share them with the students before the instructional activities. The result 1 section described the participants' testimonials about the effectiveness of "backward" assessment plans in their social studies teaching and learning. In the backward design, the teachers have to shift their **focus** from the teacher-centered delivery to the student-centered learning; in this case, social studies content learning. Active learning happens when the students and the teachers **focus** on achieving the desired results (step 2, see Figure 1). When teachers develop the assessment rubrics and test items and share them with the students before the instruction is delivered, students can **focus** on the desired results, and the teachers can ensure the students' understanding of the social studies content areas. When

teachers are **focused** on the essential and specific concepts, the students are more likely engaged in learning.

The backward design also starts with identifying the specific behavioral **objectives** and/or the standards, and then all activities to support these **objectives**.³⁵ The shift also has to be made from covering the curriculum to making sure the students understand the social studies content areas.³⁶ The backward design asserts that the effective lesson designs; 1) identify desired results (objectives), 2) determine acceptable evidence (assessment), and 3) plan learning experiences and instruction (activities).³⁷ Meeting **objectives** is connected to understanding social studies content knowledge and achieving the criteria of the assessment. In the four-step teaching and learning cycle, **objectives** play the main role in each of the four steps. At the first step, preinstructional exploration, the main goal is to identify the developmentally appropriate **objectives** that are outcome- and performance-based. At the second step, assessment development, all the assessment strategies are to be aligned with **the objectives**. At the third step, instructional development, the activities are also planned to cover the instructional objectives. At the last step, reflective expansion, the assessment result is interpreted to check whether or not the **objectives** are met.

Result 1. Thirty-seven text writings on backward assessment were analyzed. Focus and objectives are the key words for QSR N6 to find the sentences with these words.

First, QSR N6 found twenty-seven of thirty-seven text units (73 percent) under a word “**focus**.” If you read the testimonials below, the words ‘**focus**’ were used to ensure preservice teacher’s teaching connected to their student learning. Some example texts written by the participants under this word were:

By creating the assessment before creating the lesson I knew what my **focus** should be. It was easy to stay “on-track” or “**focused**” with the lesson and to be sure I taught the students what I was going to assess them on. ... it allowed me to really **focus** on what I wanted my students to achieve. I did not want students to give generic answers like “Abe Lincoln was nice.” ... It helped me **focus** on what I wanted to add or remove from my lesson. This also helped me **focus** on what would be important and essential concepts for the students to learn so that I was able to **focus** on my lesson on these concepts. --- with the assessment rubric the students had in advance, they were able to write a biopoem about the Civil War. ... The teacher can **focus** on the lessons so they will teach everything on which the students are being assessed. ... The students are also able to **focus** in the right direction. ... It helped me focus on developing a successful lesson. ... I followed this backward format and the children knew what they were expected to learn.. I will definitely use this cycle in my future classroom. ... It helped them **focus** on listening, participating in the discussion and staying organized. ... This motivated the students too.

Second, twenty-seven text units (73 percent) were found under “**objectives.**”

Some sample texts were:

By doing so, my students became aware of the **objectives.** ... Based on the rubric, students were assessed on whether they have met the **objectives.** ... For my Civil War lesson, I decided to look at my assessment plan prior to designing the lesson. This helped me decide how and what I would prepare to meet the criteria (**objectives**) of the rubric. ... My behavioral **objective** for the presentation was “During a presentation, the students will summarize and describe their information on a river town in poster board using the

rubric.” The criteria for the poster board rubric include 2 drawings of the river town in color, 5 facts about the topic, 3 reasons why you would like to live in a river town in the 1800’s, 2 reasons why you would not like to live in a river town in the 1800’s. As a result, the students were able to check their poster boards before they submitted them for the grade. Since I used the same rubric to evaluate their poster boards, the lesson was very successful. ... When I went back and measured how my **objectives** were met, I was not pleased. I had too much stuff but only a little bit of the materials that were aligned with the objectives. I retaught the lesson, which contained more hands-on and outcome-based activities. The result was great: 95 percent accuracy on the assessment items. ... Developing an assessment plan based on the **objectives** helped me measure student achievement at the end of the lesson. This has made the students more confident in the work they produced

Question 2. How has the guided reflection about their teaching played a role in improving social studies teaching and learning?

The participants in the social studies methods course wrote the reflection using the ten guidelines on their teaching performance (Table 2a). The sample reflective writing was evaluated in class using the guidelines as a whole group activity. The participants brought their own reflective writings, and their peers reviewed them and gave the grades and the feedback using the same guidelines as the rubrics. Then the participants used the graded papers and produced the final reflective writings. The Result 2 section provides their testimonials about guided reflective practice, which they experienced in the social studies methods course. For preservice teachers, deep reflection on their teaching performance is not easy. Sunal and Sunal’s open inquiry is not an easy skill for the preservice teachers to have; it is, however, easy to let

them go through guided inquiry first.³⁸ Most of the social studies methods students were frustrated in writing their reflection on their teaching. Active learning is recognized as a strategy that promotes understanding of complex subject matters and transfer of learning to new situations.³⁹ These strategies include creating rich experiences that are tied to the real world, finding effective ways to introduce students to ideas, and promoting in-depth reflection about learning.⁴⁰ The guided reflective practice helps preservice teachers describe how their teaching performances are integrated with real-life resources and students' rich experiences. The preservice teachers also reflect on whether they have multiple strategies, and whether they have evidence to ensure student learning. Then they diagnose strengths and weaknesses of their teaching for a better future plan. Because of these guided reflective writings, two preservice teachers went back to their classes and retaught them (Table 2a).

Result 2. Twenty-one participants submitted their writings on the impact of guided reflective extension. "Guided reflection, guided reflective practice, and guidelines" were the key words given to the N6 to select the text units.

Nineteen of twenty-one participants (90%) used "guidelines" and/or "guided practice" in their text writings. Some sample texts were;

The **guidelines** have allowed me to reflect on my work at a deeper level. ... I feel more confident in my ability to evaluate and reflect on my work more thoroughly. ... The **guidelines** helped me focus my reflections toward the weak areas. For example, I have learned that I need to improve on my speed when speaking in the classroom. ... The **guided reflection** helped me see where I can improve within the lesson. ... It gave me direction and helped me understand what I did correctly and what I needed to work on. ... The **guidelines** really helped me write the reflections. I ended up including a lot more

insightful information I would not have, otherwise. The **guided reflection** is one of the greatest resources a student can have. ... The **guidelines** helped me organize what I am reflecting about and the guidelines provided ideas about what to reflect about. ... After the **guided reflection**, I found my map lesson did not meet the objectives. I retaught the same map lesson and my cooperating teacher was so proud that I reflected on my work and made it much better. So often I have a hard time reflecting because I do not know what to say. The **guidelines** helped me to better my writing and the way I lay out my thoughts. The **guided reflective** practice helped me improve my students' social studies content because I went through the **guidelines** before I planned my unit on the American Revolution. I enhanced my social studies content resources to include higher-order thinking objectives and more community resources, e.g., children's literature books and web quests. **Guided reflection** gives me an opportunity to think about my performance and to be my toughest critic. I mentally looked back to the lesson and concentrated on whether or not my objectives were met. ... The **guided practice** was helpful for me to be a better social studies teacher because the criteria in the **guidelines** helped me to go back to students' learning to check if they had achieved the specific social studies concepts.

Discussion

The study is to examine the impact on participants' social studies teaching and learning after they have followed the four-step teaching cycle when developing their instructional planning. The focus of the study is on participants' development of the assessment before the instructional activities and their reflective practice using inquiry-oriented guidelines developed by the researcher. All of the participants' instructional materials were enhanced with computer

technology, e.g., Internet resources, Web-quests, multimedia, and Web page making. The instructional plans based on the four-step teaching cycle were taught to children in their internship schools and reflected on after teaching (see guidelines in Table 2a). The instructional artifacts created in the social studies methods course were stored in the on line electronic portfolio with the reflective essays (see guidelines in Table 2b).

The participants' testimonial reflective writings in Result 1 showed that the "backward" assessment development (Step 2) before the instructional activities helped them focus on teaching the essential concepts that were aligned with the behavioral objectives they decided to teach (Step 1). Consequently, the participants' students were more engaged because they knew each criterion of the assessment before they started their project: The students were able to assess the projects themselves (self-assessment) before submitting them using the scoring rubrics.

At the beginning of each semester, the participants were not sure about the effectiveness of the four-step teaching cycle because they had not tried "backward" assessment before creating any instructional activity. The participants were accustomed to waiting until the lesson activities were over before deciding on their assessment: "Will I use the test bank questions?" "Will I make multiple-choice items?" "Will I use the same test my cooperating teacher has?" or "Will I come up with something else?" Assessment is one of the weakest areas for preservice teachers in teacher education programs, and some teacher education programs do not offer an assessment course as a separate one.⁴¹

Assessment standard have been one of the weakest areas. Many times preservice teachers developed objective tests that were not really aligned with their behavioral objectives and their activities. Instead of reflecting on their teaching performance based on the assessment result, a majority of the preservice teachers wrote in their reflective essays that they thought students had

enjoyed the lesson and felt good about it. There was no assessment data to support their competency in assessment, which was aligned with the objectives and content standards. After the “backward” assessment taught by the researcher in the social studies methods course and their own experience in teaching, the participants were very positive about their backward assessment development.

In the beginning process of adopting the four-step cycle, the participants were confused and reluctant to follow the process. They were complaining about the time they had to spend in developing assessment strategies prior to their development of the instructional activities. They did not want to create the assessment rubrics and the actual test items before writing the instructional process. They want to wait until teaching is done. Participants, however, reported that they were able to reflect on their teaching deeply with more insight after they collected the assessment data and reflected on them using the reflective guidelines.

The participants’ testimonials in Result 2 demonstrated that the guided reflective practice helped them think deeply and explore the different levels of thinking that they would not have done, otherwise. The participants reported that they have improved their social studies content teaching because they used the guidelines in searching for more information to enhance students’ higher-order thinking skills (#5 in Table 2a). The participants also reported that they added community resources that were related to students’ lives (#7 in Table 2a). A majority of the participants did not understand what community resources were before they started this project.

After reflecting on their own teaching, two participants went back to their classrooms and retaught the same social studies classes and had much higher assessment results. The participants also expressed that the guided reflective practice with instructor’s feedback prepared them well for their final certification portfolio development.

In the beginning of the semester, the participants did not know how to reflect. In the past, before using the guided practice with the guidelines, students in the methods course wrote, “I enjoyed the class. The students looked happy.” Or “I think students are confused. I guess I have to prepare better.” After teaching methods courses for many years, the researcher found that the preservice teachers do not know how to reflect deeply. The researcher had not been successful in her methods courses when it came to reflection. Thus, the researcher developed the guidelines for reflective writing, and improvement occurred. The guidelines were studied, discussed, and used for the participants’ reflective writing assignments. As a course activity, the participants used these guidelines to evaluate a sample reflection draft, their own draft and their peers’, before their final draft was done. The instructor read all the drafts and provided comments using the same guidelines. The testimonials in Result 2 showed the improvement of reflective practice in this course.

This study, with such strong testimonials about “backward” assessment and guided reflection, has weaknesses in its reliability because the subject size was very small. The sample may not represent a norm group, elementary teachers, who prepare to teach social studies. The research design did not have a control group: the study was rather a pilot study. The study may need to be enhanced with a bigger sample size and a more representative sample with a control group. While many reports indicate increased student interest in schoolwork and ability to self-direct learning as a result of inquiry-oriented and student-centered teaching, not many reports have proved its effectiveness with higher scores on standardized social studies tests, better grades, increased attendance, or other hard data to indicate enhanced learning of P-12 students. A longitudinal study, thus, needs to be conducted on how a carefully designed methods course may impact P-12 student learning.

The results of this research, however, indicate that there still is value in scaffolding the development of an inquiry-based teacher education course based on backward assessment and guided reflective practice. The study also provides a strong theoretical framework, the four-step teaching cycle, with very successful and positive testimonials from the participants in the social studies methods course.

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