Certifying Celebrity in the School Library: Self-Regulated Learning in Practice

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National Board Certification is the highest level of certification and teaching recognition an educator can attain in the United States. Core foundational tenets of this process hold strong connections to inherent elements of teacher librarianship including an emphasis on monitoring and developing student's self-regulated learning. This qualitative research compares two groups of teacher librarians (one National Board Certified and one non-certified) to investigate their perceptions and practice of self-regulated learning. Findings suggest similarities within the actual teaching practices of both groups but differences in the way the participants articulate the importance of such strategies in their practice.

Introduction

Countries around the world recognize quality educators' skills and talents (or "celebrity") in different ways. Teachers' formal recognition includes programs in which students, colleagues, and citizens in surrounding communities nominate teachers for honorary awards. Some examples of such programs include the National Teacher Award in South Africa, the Roll of Honour Award given to educators demonstrating outstanding service in the Jamaican Teachers' Association, and the Global Teacher Prize awarded to nominated teachers every year internationally.

Other programs enlist educators to demonstrate their teaching mastery by submitting evidence and engaging in reflective professional practice. Australian teachers apply for certification as Highly Accomplished and Lead Teachers to the Australian Institute for Teaching and School Leadership (AITSL, 2014). The certification process laid out by AITSL (2012) includes three stages with extensive assessment, evidence, and a site visit with direct observation. Teachers in the United States can apply for National Board Certification (NBC) from the National Board for Professional Teaching Standards (NBPTS) in 25 areas from preK-12 (NBPTS, 2014). An NBPTS news release from the end of 2014 reported that over 150,000 teachers across the U.S. are certified. The process for NBC includes multiple stages and is quite rigorous like the process in Australia. NBC applicants submit reflections, student work, and videotaped lessons of their teaching to show their mastery as educators.

Both the NBPTS and AITSL standards highlight inherent aspects of teacher librarianship. Firstly, teacher librarians are often experienced educators, as their degrees are generally earned at the Masters level. Teacher librarians Jenny Uther and Margo Pickworth, both certified as Highly Accomplished in Australia, noted the emphasis of the AITSL standards on collaboration and information and communication technology (2014). Uther and Pickworth (2014) also made a connection between these standards and the professional standards for teacher librarianship in Australia as developed by the Australian Library and Information Association and the

Australian School Library Association (2004). Applicants for NBC in the United States demonstrate their teaching mastery of Five Core Propositions relating broadly to professional practices and applications of teaching and learning. As with the AITSL standards, there are strong connections for teacher librarians and the NBC propositions. For example, proposition 3 states: "Teachers are responsible for managing and monitoring student learning" (NBPTS, 2002, p. 13). This focus on managing and monitoring student learning relates to the role of the teacher librarianship in promoting information literacy skills, developing a robust collection of resources, and engaging the students to master their own learning skills. In this paper, we consider the role of the teacher librarian as related to this proposition using definitions of self-regulated learning. Our research examined how two groups of teacher librarians in the U.S., one with NBC and one without, applied self-regulating learning strategies in their teaching and to investigate differences between the two groups.

In this study investigated how National Board Certified Teacher Librarians (NBCTLs) and non-National Board Certified Teacher Librarians (non-NBCTLs) differ in their interpretation and practice of SRL in the school library. Two research questions guided this study, examining:

1. How do NBCTLs and non-NBCTLs interpret and apply metacognitive strategies in their teaching?
2. What are the similarities and differences between the two groups?

Review of Literature

Self-regulated learning (SRL) is the ability to plan, monitor, and evaluate one's own learning processes. Van den Boom, Paas, and van Merrienboer (2007) assert "there is a broad consensus that SRL comprises many aspects related to students' learning, such as goal setting, using effective strategies to organize learning, monitoring, performance, self-awareness, motivation and holding positive beliefs about capabilities" (p. 533).

Self-Regulated Learning and National Board Certification

After an extensive search of literature investigating SRL and National Board Certified Teachers (NBCTs), no direct studies were discovered. However, research about NBCTs and patterns in their teaching practices reveal connections to SRL. For example, reflection is an integral part of SRL as learners monitor and consider their own learning processes and progress. In a self-report survey study of NBC art teachers, Unrath (2007) found that these teachers labeled themselves as reflective practitioners before undertaking the certification process and also noted an increase in their reflective practices after engaging in the certification process. Johnson (2009) found similar results regarding reflection in her sample of 57 teachers' practices post certification. NBCT participants in another study also noted how the certification process reinforced to them the importance of developing critical thinking capabilities in their students (Scheetz & Martin, 2006). Both reflection and the ability to think critically are important to fostering SRL.

National Board Certification and Student Achievement

Researchers examining differences between NBCTs and teachers without this specialized certification show mixed results regarding student achievement. Some results indicate superior student achievement using competency measures or standardized achievement data (Phillips, 2008; Vandevoort, Amerine-Beardsley, & Berliner, 2004). For example, in a study comparing National Board Certified and non-certified Physical Education teachers, the students of NBCTs outperformed students of non-NBCTs on measures of motor skill performance, cognitive fitness knowledge, outside class participation and health-related fitness levels (Phillips, 2008). In

addition, research over a four year period by Vandevoort et al. (2004) comparing teachers of grades three through six with NBC and those without NBC found that the students of NBCTs demonstrated superior academic achievement as measured by the Stanford Achievement Tests (SAT). These findings were reflected across three-quarters of the statistical comparisons and nearly one-third of these differences were statistically significant (Vandevoort et al., 2004).

Conversely, results from additional studies looking at student achievement data alone did not reveal any significant differences between NBCTs and non-NBCTs. For example, a comparison study of 27 NBCTs and 27 non-NBCTs teaching kindergarten through grade 8 found that student scores on end of the year standardized tests did not significantly differ (Rouse, 2008). Data from a larger study that incorporated statistical analysis of standardized test variables and qualitative data including teacher interviews and classroom observations found that while dispositions and pre-instructional characteristics of NBCTs were of a higher quality than non-NBCTs, no differences were observed in classrooms between the two groups (Stronge et al., 2007). Scheetz and Martin (2006) had similar findings in their study comparing NBCTs of deaf students with "master" teachers identified by colleagues and university professors.

Method

This study used mainly qualitative methods to study the teaching and learning practices of NBCTLs and non-NBCTLs in regards to their practice of SRL as teachers and learners. We compared two groups of five NBCTLs and five non-NBCTLs working in primary and secondary schools in the mid-Atlantic area of the United States. The ten participants volunteered to be interviewed and observed while teaching after completing an online questionnaire for a preliminary stage of this research (Garrison & Spruce, 2013). Table 1 includes demographic and descriptive information about the ten participants.

Table 1. Characteristics of Teacher Librarian Participants

NBC Status	Participant Pseudonym	School Level	Highest Degree	Gender	Age	Years of Education and Experience (Library/Total)
NBC	Naomi	Elementary	Masters	F	Under 35	9/9
	Eleanor	Middle	Masters	F	Over 45	15/18
	Violet	Elementary	Masters	F	Between 35-45	23/23
	Incognito	Secondary	Masters	F	Over 45	15/31
	Ruby	Secondary	Masters	F	Over 45	34/34
Non-NBC	Sydney	Elementary	Masters	F	Between 35-45	4/14
	Owl	Secondary	Masters	F	Over 45	2/20
	Jacqueline	Elementary	Masters	F	Between 35-45	7/20
	JDL	Secondary	Masters	M	Between 35-45	16/20
	Tessa	Middle & Secondary	Masters	F	Over 45	26/26

The data sources included an interview and two observations of the teachers in a lesson with students. Spruce and Bol (2014) created the interview and observation protocols were for similar research studying classroom teachers' use of self-regulated learning strategies. See Appendix A and Appendix B for these protocols.

The questions in both protocols were designed in concurrence with the three phases of Zimmerman's SRL model (2008). The items query both the teachers' use of SRL for their own learning and also their application of these notions in the classroom. For example, question one asks, "How might you use goal setting in your own learning?" while question two inquires, "How would you use goal setting as a tool in your classroom?" Subsequent questions follow a

similar pattern; they first explore teachers' personal learning behaviors, followed by questions about classroom teaching practices.

In order to enhance validity of the observation protocol in Appendix A, the observation form was developed using Zimmerman's model of SRL (2008) and Schraw's Metacognitive Checklist (1998) as guides. We also developed a blueprint to scaffold the structure and content of the instrument. In addition, three researchers experienced in such methodologies reviewed the instrument and we revised it based on this input. To establish reliability prior to use, we piloted the measure and calculated the percent of inter-rater reliability (Spruce & Bol, 2014). The inter-rater reliability for the subsequent two observations was 94% agreement.

The interview protocol shown in Appendix A included 16 questions about teacher perception, understanding, and application of SRL. To enhance the validity of the questions, the researcher first designed a blueprint, based upon Zimmerman's SRL model (2008). The questions were developed from the scaffolding provided by the blueprint. Additionally, the protocol underwent review by three scholars. The interview protocol was pilot tested with a classroom teacher and adjustments were made to several questions for clarity after the pilot interview. A researcher experienced with this methodology reviewed and approved the revised protocol (Spruce & Bol, 2014).

The observation instrument in Appendix B lists 18 observable behaviors teachers might perform to facilitate student development of SRL. The first six items are classified under "Planning," the next seven under "Monitoring," and the final five, "Evaluating," in accordance with the three phases of SRL as presented by Zimmerman (2008). Some actions appear in more than one stage on the observation instrument as they are in Zimmerman's model (e.g. self-instruction and attention focusing). These behaviors were evaluated using a scale ranging from zero to four. If the researchers did not observe a behavior at all, they recorded a score of zero. A score of one indicates a limited application of the behavior defined as the teacher prompting students to the behavior one time while a score of two indicates a somewhat limited application of the behavior defined as the teacher prompting the students to the behavior more than one time. A score of three indicates a somewhat strong application of the behavior defined as the teacher giving students an opportunity to practice the behavior themselves one time. A score of four indicates a strong application of the behavior defined as the teacher giving students an opportunity to practice the behavior themselves more than one time. The main difference between a score of one-two and a score of three-four is the opportunity for students to practice.

The scores from the observation protocol are the sole quantitative data used in this study. We rated participants in both observations, calculated the average of the two observations for each of the three stages of learning, and determined the overall mean. Next, we used an inductive content analysis approach to investigate the patterns in the interview data (Patton, 2002). This method included three phases. First, the researchers analyzed the same two interview transcripts (20% of the total transcripts) separately to find themes and patterns in the data and then we compared their individual findings from that stage and created a rough draft of potential codes. In the second stage, we coded two more different interview transcripts using the codes formed from the first stage. Then, we came together again to analyze and discuss their codes for the second pair of transcripts. After we reached 80% agreement with all codes, we coded the remaining transcripts. Table 2 lists the codes emerging from the data.

Table 2. Codes Emerging from Interviews Applied to Observations

Code	Definition
Visualization	Visual or graphic representation of concepts or the learning process to aid in imagining a topic or idea
Chunking	Dividing tasks into smaller steps in order to prepare for learning
Modeling	Scaffolding student learning by showing them how to do something, often

	described as a thinking aloud to monitor internal processes
Reflection	The thinking that occurs after a learning event or activity, a deliberate consideration and evaluation of the learning process Challenges to implementing time for reflection also emerged

We then used these codes to analyze the observation field notes and protocol to investigate how the participants translated their interview reflections into their practice. We searched for particular instances where these codes were implemented. The following discussion of the results will examine first similarities and then differences with the NBCTLs and non-NBTCLs for each of the four codes, integrating the interview and observation data.

Findings

Analysis of the interview and observation data reveals mixed results of the knowledge and application of SRL strategies across the two sample groups. The observation scores for the 10 participants are included in Table 3 across the three stages of learning including mean totals for each individual and for each group.

Table 3. Observational Scores for the Participants Across the Three Stages

NBC Status	Participants	Planning (4)	Monitoring (4)	Evaluating (4)	Individual Totals (12)
NBCTLs	Naomi	1.54	1.89	0.3	3.73
	Violet	1.8	2.64	1.5	5.94
	Eleanor	2.75	4	1.6	8.35
	Incognito	1.42	1.79	0.4	3.7
	Ruby	1.3	2.5	0.5	4.3
NBCTLs Mean Totals		1.76	2.56	0.86	5.20
Non-NBCTLs	Owl	1.08	2.64	0	3.72
	Sydney	1.42	1.79	0.5	3.71
	Tessa	2.58	3.64	0.3	6.52
	Jacqueline	2.6	3.15	1.5	7.25
	JDL	1.33	1.57	0.6	3.5
Non-NBCTLs Mean Totals		1.80	2.56	0.58	4.94

These scores reveal little difference with the inclusion of SRL strategies in teaching across the two groups, and the scores are quite similar within the three stages. Similarities were also found in the teaching of SRL strategies. At the same time, however, differences in the knowledge and explanation of using such strategies were detected in the interview data. The remainder of the discussion surrounding the findings will address these themes organized by similarities and differences and supported by the interview and observation data.

Similarities Between Groups

There were similarities between the two groups of TLs in regards to how they encourage and practice self-regulated learning strategies with their students. The researchers developed codes for similarities in the interview and observation data including visualization, chunking, modeling, and reflection.

Visualization

Teacher librarians in both groups offered visual representation of concepts and ideas, such as graphic organizers, outlines, or prompts to imagine or visualize an idea. In the interviews, many mentioned recommending graphic organizers to students, linking the idea that seeing material presented visually was helpful for learners. For example, non-NBCTL Sydney said in reference to setting up goals for a learning event:

> *...ways to do goal setting so that you can present it to them and that they can choose a way to do it, you know. Often, graphics, some kind of graphic organizer is what we tend to lean towards because kids are visual.*

NBCTL Ruby described in great detail learning gains to be made by guiding students through a mental visualization exercise. She also emphasized the uniqueness of each learner, indicating that the very technique she explains may not work for all learners:

> *...easy to tell kids to paint a picture in your mind…and tell the story, I'm going to tell you a story, it's about an event that happened and I want you to close your eyes and imagine it in your brain. Now that's going to work for the kids that are visual learners, it's not necessarily going to work for, it will work for audible, but um, some kids need to read it. But to visualize what happened in this event in history and then as you're visualizing it, what's, what's the big deal with it, what's so important about it?*

Several additional TLs from both groups, including Owl, JDL, and Incognito, also noted that each learner is unique commenting that visual or kinesthetic learners may respond to one kind of non-verbal representation of ideas, while others may do best with a different tool.

From classroom observations, the researchers observed little implementation of the strategies described by the TLs from either group. Four of the librarians in the study either made mention of using visual strategies to guide learning or offered a teacher-designed frame to help students sort information. Two of these were NBCTLs and two were not. NBCTLs Incognito and Violet offered encouragement to their students to use the tool given in the form of a worksheet while non-NBCTLs JDL and Sydney verbally encouraged their students to try to imagine/envision the information being presented without a physical frame. None of the teachers during the observed classes offered students the opportunity to develop or consider their individual learning processes and what might best serve those for the learning activity which would have earned a score of three or four on the observation protocol.

Chunking

Across groups, TLs used similar language and named similar strategies when discussing dividing tasks to prepare for learning. Some of these included "chunking," "breaking things down into steps," "checklists," and "calendars." They suggested using checklists and calendars as tools for helping students break tasks into manageable "chunks" or "steps." For example, NBCTL Naomi describes beginning the process with students as young as five years-old:

> *…even my kindergarteners, I start with Froggy Gets Dressed, that little book, and tell them about you know, Froggy didn't get to play in the snow because he didn't have a process for getting dressed so he just sat there starting over all the time, and um, that's where you need a process because if you want to get something done, you're going to have to have the steps to be able to do it.*

Non-NBCTL Jacqueline described this same idea in terms of calendars and helping students to develop and maintain schedules for completing tasks. All five of the NBCTLs

referenced "chunking" or "steps" in some way as did four of the non-NBCTLs Tessa, Jacqueline, Sydney, and Owl.

However, we observed scant evidence of this type of skills coaching. NBCTL Eleanor made a verbally broke down the tasks and timeframe for the class period. The observed lesson non-NBCTL Tessa taught introduced a new research project where students used index cards to organize their notes; the handout of instructions for this project did include a marking rubric with deadlines noted by the researchers as a checklist and calendar of sorts. However, no other TLs referenced or offered students a calendar, rubric, or checklist for breaking down either a long-term project or tasks within the class period itself.

Modeling

Both the NBCTLs and non-NBCTLs stressed the importance of modeling and scaffolding student learning in their interviews. Non-NBCTL Sydney noted that "*modeling thinking is very important*" in her primary school library. The NBCTLs mentioned a lot of sharing their own personal ways of learning with their students to help give the students a model to practice. NBCTL Violet was clear in her view of this as she said, the "*other thing we do a lot of is modeling that, that um, as librarians we're also, we're teachers, but we're also learners."* NBCTL Eleanor, who was teaching a middle school class researching a famous person of their choice, noted that the kids "*haven't lived long enough to have a really good schema on any of these topics*" so "*you show them what you want the product for each step to look like…and by doing it that way you scaffold them, you know, to build them up to succeed."*

This modeling and scaffolding was quite evident in the observations from both groups. Many of these 20 observed class sessions dealt with the research process and using resources within the library collection like print books and online databases to find information. Non-NBCTL Owl modeled her search processes for her secondary students as did non-NBCTL Tessa and NBCTLs Naomi, Eleanor and Incognito. Naomi did a demonstration of an online search using her library's catalog for her grade five students. The students were then encouraged to use the catalog themselves to find resources interesting them, putting into practice some of the strategies Naomi had just modeled. Tessa's lesson was heavy on research and included students critically analyzing the value of their sources. She engaged them in a discussion about Wikipedia as a source stating, "*Let's talk about Wikipedia for a moment, I know it is not to be a resource, but I also know you will use it."* She went on to admit using Wikipedia herself and described the ways she uses it. The class got into a fruitful discussion about how and when it is appropriate to use crowd-sourced information on websites like Wikipedia.

Both groups also discussed the use of physical examples and models in order to show students what a finished product may look like. Non-NBCTL Jacqueline described a lesson where students were shown good and poor examples of the project they were to complete and had to evaluate and give the projects a grade. The students were "pretty tough" on the examples Jacqueline remarked. Despite the noted value of models in the interviews, there were no physical examples or models used in the 20 observed lessons for both groups of TLs.

Reflection

In the interviews, all participants stressed the importance of reflecting on the process of learning in broad and detailed terms. Reflection activities mentioned by both groups included exit tickets, peer evaluation exercises, and self-questioning techniques. NBCTL Violet stated it is important to be:

> *…encouraging kids to be reflective about what they're doing. So, not just doing it, again, but understanding why you're doing it and what's working and what's not working so then they can*

> *start to think about, okay, what do I need to do better or differently next time and really getting them to think about the whys.*

As shown in Table 3 reporting the observation scores of each of the 10 participants, the scores for the reflection phase were the lowest scores across the three phases and across the two groups. The NBCTLs scored just slightly higher than the non-NBCTLs. Within the 20 observations, two TLs offered students opportunities for reflection at the end of their lessons. NBCTL Eleanor and non-NBCTL Sydney included "exit tickets" for their students to complete before leaving the library. However, Sydney's activity was more content-driven asking students to give a fact from the lesson instead of process-driven which is what the observation protocol sought. Non-NBCTL JDL and NBCTL Violet included verbal prompts for their students to reflect on the "why" of how and what they learned during the research lesson.

In noting this absence of reflection in the observations, it is important to note the clear pattern of challenges to reflection at the end of a lesson or activity brought up in the interviews. Both groups noted time constraints and the testing culture as impacting their ability to incorporate reflection activities. NBCTL Ruby reflected "*it's the [standards], maybe were so test driven now that kids can't sit around a table and come up with a solution to a problem*." NBCTL Eleanor voiced a similar statement when she noted teachers are "*so crunched with the demands of the curriculum that I struggle to get them to do the lengthy things we used to do for research*." Despite the time and curricular challenges in implementing reflection into the final stage of a learning event, NBCTL Naomi eloquently noted that:

> *…really that last step is the one that gets shoved off sometimes because we just want to be done with the stinking thing, but it's one of the most important to get the kids to do, really to get them to reflect on what they've done because otherwise it's just kinda um, repeating the same mistakes and um, you know you're not getting experience your just doing a bunch of stuff.*

Differences Between Groups

Despite the similarities reported previously, differences among the NBCTLs and non-NBCTLs also emerged from the four codes of visualization, chunking, modeling, and reflection. The remainder of the discussion addresses these differences.

Visualization

While NBCTLs and non-NBCTLs discussed many of the same strategies for making ideas more visual for students, including graphic organizers, imagery, and outlines, the information presented by the NBCTLs in the interviews was more detailed and context embedded (i.e., provided an example of strategy use in an example from classroom practice.) A comparison of two responses helps illustrate this distinction. NBCTL Incognito shared her perspective on strategies to help learners set goals for an assignment saying:

> *…so like for me, two column notes are magic, but you might hate that, it may not work for you at all. So you need a different trick and maybe your trick is making a movie in your head about everything you read, about everything that is being lectured, or draw a little picture every time there is a key concept in the lecture, drawing a little picture in your notebook so finding those tips and tricks or maybe you have to talk it out, underlining it and when you get home you just talk it out. Whatever works for you, teach your brain that, this is my tip, this is my trick, this is what works, this is what makes me successful, tada!*

While non-NBCTL JDL also listed some of the same ideas, he provides little elaboration of direct application, stating, "*...making outlines and lists and using note cards for research, others might use the technology, there are organizers."*

As discussed previously, four of the observed TLs included references to worksheets for visually representing ideas from the lesson: non-NBCTLs JDL and Sydney and NBCTLs Incognito and Violet. Both of the NBCTLs had handouts for the students to use. Incognito's was a step-by-step guide for working through a science inquiry lesson requiring book and Internet research. The sheet involved complex thinking tasks and a graphic to guide students' analysis of various minerals. Violet was also guiding students through an Internet research activity; hers was to help students evaluate websites. The sheet she provided them was a graphic organizer based around the acronym CARRDSS; each letter represented a step in the website evaluation process (Credibility; Accuracy; Reliability; Relevance; Date; Sources; behind the text; Scope and purpose) Students' evaluated websites in collaborative groups, using the organizer as a tool.

The non-NBCTLs referenced visualization verbally to their students. Sydney encouraged her elementary aged students to visualize images from a story, both those provided in the book and through their own imaginations, to remember and understand the topic. For a secondary school group of learners, JDL created a lesson centered around pulling marketing messages from commercials and analyzing them. Ergo, he asked his group to consider what images mean and how they are meant to persuade consumers to make decisions like purchasing something. He provided structure to this activity by verbally engaging students. However, neither of these librarians provided materials to their students; rather, they relied on verbal prompting to encourage use and analysis of visual information to understand ideas.

These four examples illustrate a striking contrast between the two groups of teacher librarians. The NBCTLs had materials prepared for their students to use that visually organized information for them. The two non-NBCTLs depended solely on verbal prompts to do so.

Chunking

Two distinct differences emerged from the data regarding "chunking" of tasks. As noted above, in practice, all of the TLs did little to support this skill in their two observations. However, from interviews, the NBCTLs once again provided greater context and a stronger narrative for describing how to implement these tools than did the non-NBCTLs. NBCTL Ruby used an example to describe how she might herself go about using time/calendar as a guide for accomplishing a learning task:

> *...set time goals for yourself. In two weeks, I want to know um, everything about ancient art, I want to be able to identify all the pieces of ancient art, or pictures that are going to be on that, or I want to um, be able to recognize all the vocabulary for this unit and then move into the next step and the next step and you have to be so methodical about it in order for them to grasp so much knowledge.*

She referenced both time and breaking the task into steps in the example she sketches. In contrast, non-NBCTL Tessa described breaking a unit into steps for students, but speaks in more general terms:

> *Monitoring is a matter of steps. Any good teacher is going to create a unit with lots of little baby steps and again this depends on the age because we deal with, at my school, with such a wide range of learners um, and they, ages and grades, it really varies heavily from the youngest to the oldest, but you're gonna structure the unit in small steps.*

Tessa's example leads into the second notable difference with the mention of "chunking" between NBCTLs and non-NBCTLs. The NBCTLs placed a greater emphasis on student

independence and autonomy; the goal of teaching or modeling the skill of chunking was to have students be able to carry out that task themselves. Whereas the non-NBCTLs spoke of "chunking" more in terms of what they do to structure a lesson, as did Tessa in the quote above. Incognito discussed a KEL chart (what I KNOW, what I EXPECT to learn, what I LEARNED). This format puts the onus on the student to consider their own learning and their role in it:

> *...KWL chart has been changed to KEL, what do you know, what do you expect to learn and that way you plant it in the student's brain, you know you have an expectation, you know, I am expecting what I am going to gain from this, and then what did I learn, and then to add on to the end of that, KW or KEL plus the one is what do I know, what do I expect to learn, what did I learn, [counting out KEL+ columns with her fingers], so, so what difference does it make that I learned that and what can I attach it to all that?*

She mentioned "planting" the idea in the student's brain, but then turning over the action to the student of what to do next whilst engaging on their learning journey.

Modeling

As noted in the previous codes, again the major difference between these two groups in the area of modeling was the NBCTLs' discussion of the ways they model and scaffold their students. There were nineteen instances where statements from the NBCTLs' interviews were coded into this pattern with only seven instances from the non-NBCTLs' interviews. The NBCTLs gave more contextual examples illustrating their practice of modeling and scaffolding as well as its importance in their teaching. NBCTL Eleanor mentioned the importance of modeling different study and self-regulating strategies for students so they can find what works for them in her statement "I really believe we have to teach our kids how to take systematic notes, um, like for example Cornell notes, um, we have to teach kids how."

Further, in the interviews, the NBCTLs had a stronger perspective that modeling and scaffolding were essential to their teaching; it was not a question of implementing this technique. NBCTL Incognito shows this drive in saying:

> *I think those skills have to be modeled, I think they have to be what's the word I want, um, just constantly encouraged, really enforced, you know, they might do it once after modeling, but the next time and next time, we need to enforce that you are in charge of your learning.*

Some of the non-NBCTLs voiced more surprise at the level of scaffolding and modeling their students needed. In working with secondary students, non-NBCTL Owl noted "I really was amazed at the amount of coaching and scaffolding that I felt was necessary to make projects successful." While both groups of TLs did emphasize the importance of modeling, the NBCTLs presented a clearer, more contextual discussion of how they implement such strategies in their practice.

Reflection

As previously stated, there was not much difference between the teaching observation scores with the two groups in regards to the final phase of learning, reflection. Both were quite low in this stage. However, there were clearer differences in the interviews about reflection during the evaluation (final) stage of the learning process. As with modeling and scaffolding, the researchers found more and longer instances of discussing reflection in the interviews by the NBCTLs (28 instances) than by the non-NBCTLs (18 instances.) The NBCTLs gave a stronger discussion in how they implement reflective activities into their teaching, offering specific details with clarity. They gave examples of the types of questions they would enlist students to ask themselves post-learning in order to pinpoint their strengths and weaknesses as researchers.

The quotes in Table 4 show the differences in the types of questions noted by both groups of TLs as being important in the evaluation phase of learning.

Table 4. Quotes Eliciting Reflection During the Evaluation Phase of Learning

NBCTLs	Non-NBCTLs
"How did this learning experience enhance your, your understanding of, for example, this ethnicity or this culture or this event in history? You know, not did you get an A? Did you pass the test? Did you learn your vocabulary words?" -Incognito	"What did we learn today? Why did we learn that? Um, you know, what are going to take away with you? What are you going to apply next time this comes up? So I kind of check for knowledge." -Tessa
"Pay attention and then to start questioning them on ways to improve that and if they're happy with it. Not, you know, did you make me happy, but did you make yourself happy? Is this where you wanted to be?" -Violet	"if you look at how you are thinking and ask yourself questions and after a situation, you reflect on and be objective at the end in critiquing yourself, when you accomplish things, you will have for yourself a base that will help you to just continually grow through life" -JDL
"What did you know? What'd you learn today that you didn't know before? What was your aha moment?" -Ruby	"the exit tickets can be things like that, you know reflecting on what you learned? Any confusion? those types of things." -Sydney

The quotes from NBCTLs in the left column asked questions eliciting deeper reflection than the quotes from non-NBCTLs in the right column as the NBCTLs got more explicit about the process itself and how it could influence further learning. As noted in the first non-NBCTL quote by Tessa, these questions elicit answers more about knowledge, a lower level order of thinking. The NBCTLs more efficiently communicated their goals as educators to develop in their students a more self-regulated view of learning. NBCTL Violet described this process of self-questioning using a journey metaphor:

> *So we're trying to build, I'm trying to build in constantly space for kids to reflect on either how something can help them in a different situation or how can they improve whatever it is they've done so that the next time they encounter it, they sorta know how to know what the new road map is.*

Discussion

Research regarding differences between NBCTs in the U.S. and those without certification includes mixed results. For example, two studies report that before engaging in the process of certification, NBCTs tended to define themselves as reflective practitioners and carried a personal belief system of engaging in critical thinking techniques and strategies (Johnson, 2009; Unrath, 2007). Our study found that while the NBCTLs in our sample more richly described reflective practice in the interviews, they did not actually engage their students more actively in it than did the non-NBCTLs in the observations. These findings were largely echoed throughout our study in the other coded areas including visualization, chunking, and modeling strategies. NBCTLs provided richer, more complex, and context embedded answers to interview questions across emic codes than did the non-NBCTLs; yet classroom practice looked largely the same in our observations. This finding connects to the work of Stronge et al. (2007) who found that while in interviews with NBCTs, their description of strategy was superior to non-NBCTs, their classroom practice was generally equivalent.

Sparse research has paired examining SRL knowledge - as described by teachers - with classroom practice. However, evidence indicates that the skills can be taught (Azevado & Cromley, 2004; Perry, VandeKamp, Mercer, & Nordby, 2002). Key factors for students to learn these skills include direct teacher instruction, guided practice, and instructor feedback (Bol, Hacker, Walck, & Nunnery, 2012; Butler, Karpicke, & Roediger, 2008; van den Boom et al., 2007).

While our study did not examine student achievement or SRL skills acquisition in students specifically, the findings of these previous studies tie to comments made by the TL participants.

Limitations

Limitations that must be noted from this study are related to the number of participants, their different characteristics and the schools they teach. Having more participants in the study could strengthen the conclusions; however, considering the context, methodology, and focus of this study, these ten participants created a balance of breadth and depth for the research (Patton, 2002). There was a wide range of experience in teaching and in teaching in the school library, but it is clear that the NBCTLs have more school library and teaching experience (96/115 years) than the non-NBCTLs (73/100 years), respectively. The age range of learners is another factor. It would be assumed that secondary students should naturally have more autonomy and knowledge of their learning processes than primary students. Further, this research includes two classroom observations of each participant. Ergo, it is possible with additional observations, both groups of TLs could incorporate more SRL strategies into other lessons. However, the interview data also supports our conclusions.

Another factor we note as evident in our discussion of the findings is the difference in the interviews of the NBCTLs and non-NBCTLs. In many cases, the NBCTLs were better able to express and reflect on their teaching and learning practices. The process for earning NBC is very rigorous and includes multiple elements of just this: reflecting and analyzing one's teaching. In research from Unrath (2007), NBCTs reported being reflective practitioners before but even more strongly after the application process. Thus, the NBCTLs in this study would have experience in answering and considering questions like those in our interview protocol and may further have a personal inclination towards such practices. Incorporating data from the observations and interviews helps to address this limitation.

A final theme that arose from our study as limiting the practice and engagement of SRL strategies in the school library is an issue that plagues American education- the testing culture focused on content and the time it takes away from teaching skills. Participants from both groups explained the major obstacle for teaching SRL skills is finding time to do so in the school day. Time for direct instruction, guided practice, and meaningful feedback of SRL skills has to compete with high-stakes standardized test driven content area instruction. Even though many of our participants knew of and understood how to teach SRL skills based on their interview responses, results from the observations of this study suggest SRL skills instruction is not as prevalent. However, teacher librarians from our study clearly value these skills.

Conclusion

We used a variety of data sources, including videotaped teaching lessons, Praxis III scores, questionnaires, and interviews, to analyse the classroom practices of all study participants; they noted no major differences between the two groups (Scheetz & Martin, 2006). Findings from these studies suggest there is a need to explore both qualitatively and quantitatively NBCTs and teachers without this certification to better identify what factors influence teachers to pursue certification and effect the process itself may have, or not, on their classroom practice.

In the U.S. context, the emphasis on skills instruction within the Common Core State Standards (National Governors Association & Council of Chief State School Officers, 2010) holds the potential of boosting the practice and teaching of SRL skills in the school library. Shortly after the release of the Common Core, the American Association of School Librarians designed the Crosswalk (AASL, 2011) connecting from the Common Core State Standards to the Standards for the 21st Century Learner (AASL, 2007). It is evident from these links that the

focus on developing skills like SRL is a core element across both sets of standards. Global scholars in the field are calling on teacher librarians to take advantage of this opportunity in leading teaching and learning initiatives in their schools (Hill, 2012; Loertscher & Marcoux, 2012; Todd, 2012). Albeit a challenge given time and testing struggles noted by the teacher librarian participants in this study, both NBC and non-NBC, it is clear that such skills instruction is significant and that the school library is a ripe area for its implementation.

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Appendix. Interview Protocol

Planning:

1. How might you use goal setting in your own learning?

2. How would you encourage your students to use goal setting when planning for a learning task?

3. How would you plan before beginning a learning task?

4. How would you encourage students to plan for a learning task?

5. How would you enhance students' self-motivational beliefs to improve student learning?
   - Probe: Self-Efficacy
   - Probe: Outcome expectations
   - Probe: Task interest
   - Probe: Goal orientation

Monitoring:

6. In what ways would you monitor or control your own learning (assert self-control)?
   - Probe: Using self-instruction?
   - Probe: Using imagery?
   - Probe: Using attention focusing?
   - Probe: Using specific task strategies?

7. What techniques might you employ to encourage self-control (self-instruction, imagery, attention focusing, specific task strategies) of learning for your students?

8. What are some methods you might employ to monitor your learning process, metacognition, while engaged in a learning task?

9. How would you encourage or implement monitoring of the learning process, metacognition, in your teaching?

10. What are some techniques you might use to track your progress through a learning task?

11. How would you encourage students to track their progress through a learning task?

Evaluation:

12. How might you evaluate your learning after completing a learning task?
   - Probe: Self-evaluation
   - Probe: Causal attribution

13. What are some activities you might design to encourage student reflection and evaluation after a learning task?

14. How might you determine your satisfaction with a learning outcome after you complete a learning task?

15. How would you encourage students to evaluate their satisfaction with the outcome of a learning task?

16. How would you describe self-regulated learning to your students?

Appendix B. Observation Protocol

SRL Classroom Observation Instrument

Pseudonym: _____

R = Teacher reference to
DA= Teacher provided opportunities to practice/perform/discuss (directed activity)

Observable Behaviors					
Planning reference to/directed activity for:	0 Not observed	1 Limited application R	2 Somewhat limited application R (once)	3 Somewhat strong application DA	4 Strong application DA (more than once
1. setting task goals					
2. seeking information and strategies needed					
3. setting time and resource allotment					
4. self-instruction					
5. attention focusing					
6. self-recording (e.g. maintenance of a record of progress)					
Monitoring reference to/directed activity for:	0	1	2	3	4
7. clarifying understanding of task/content					
8. evaluation of progress towards goals					
9. self-instruction					
10. attention focusing					
11. self-recording					
12. use of specific task strategies					
13. assessment of task-understanding					
Evaluating reference to/directed activity for:	0 Not observed	1 Limited application *R*	2 Somewhat limited application *R (once)*	3 Somewhat strong application *DA*	4 Strong application *DA (more than once*
14. progress towards task					

goals					
15. strategy use - those that succeeded and failed					
16. actions to be repeated or modified for subsequent related tasks (adaption based on performance)					
17. determining self-satisfaction (based on performance)					
18. causal attribution					

Comments:

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