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Editorial: Review of Chen and Bonner's *A Framework for Classroom Assessment, Learning, and Self-Regulation*

Nevair Oranjian (Queens College)

Welcome to the June 2020 *Times Magazine* issue of the American Educational Research Association (AERA) Studying and Self-Regulated Learning (SSRL) Special Interest Group (SIG). This issue is framed around Peggy P. Chen and Sarah M. Bonner's (2019) article, A Framework for Classroom Assessment, Learning, and Self-Regulation, published in *Assessment in Education: Principles, Policy, & Practice.*

Chen and Bonner, both professors of educational psychology within City University of New York, Hunter College, have worked together for many years to develop their model of classroom assessment and academic self-regulated learning (CA:SRL). They share a passion for assessment that is evident through their work, including their book on CA:SRL titled *Systematic Classroom Assessment: An Approach for Learning and Self-Regulation* (Bonner & Chen, 2019). For their book review, see the work of Divya Varier in this issue.

The CA:SRL framework utilizes principles from both self-regulated learning (SRL) and classroom assessment (CA). In this issue, Aldean Beaumont-Tynes posits, "…this framework… ensures that SRL practices are intertwined into the assessment process." According to Chen and Bonner, both CA and SRL are iterative processes during which learners have various occasions to reconstruct their misconceptions and performing and improving upon their SRL strategies.

Their framework is highly influenced by Barry J. Zimmerman's (2002) SRL model because of the dynamic and reciprocal changes that occur between personal, behavioral, and environmental factors. While Zimmerman's (2002) SRL model is iterative and dynamic, it emphasizes the role of the individual who is engaging in the learning process.

In their CA:SRL framework, Chen and Bonner discuss the *self* in self-regulation to include teachers and the individual learner. Since the framework is focused on the classroom, the authors included the social concepts of shared- and co-regulation into the CA:SRL framework.

The CA:SRL framework integrates the various types of CA while making connections to SRL at each of the four stages.

In this issue, Anastasia Kitsantas, Eleni Morfidi, and Neesa Ndiaye stated that "structuring the environment for students to interact and learn from their teacher, peers, and own personal successes and failures, is the future of a more progressive and empowering approach to instruction and learning." As both already exist in the classroom amongst students (shared) and with the teacher (co-regulation), these concepts effortlessly blended into and enhanced the CA:SRL model.

The CA:SRL framework integrates the various types of CA while making connections to SRL at each of the four stages. In the article, Chen and Bonner (2019) and their book (Bonner & Chen, 2019) characterized their framework as a cyclical process that occurs continuously throughout the school year, be it for classroom units or even an entire semester.

The cyclical nature of the framework can be related to Zimmerman's (2002) cyclical model of SRL. Chen and Bonner connected Zimmerman's (2002) model to the stages of assessments: Stage 1 of CA:SRL is the forethought phase, Stages 2 and 3 are the performance phase, and Stage 4 is the reflection phase. By adding in Zimmerman's SRL model into CA, students and teachers engage in SRL during the CA process.

It is with the CA:SRL framework that we see how SRL applies to CA. It is now easier to visualize the connections between the two approaches and understand the importance of incorporating SRL into CA practices.

According to Timothy Cleary, "… this paper supports the premise that aligning CA data with SRL initiatives and principles enhances the potential for educators to make effective adaptations and decisions regarding optimal learning experiences and instructional practices."

Stephen Pape and Dr. Clare Bell asserted that Chen and Bonner "…made the theory and research explicit for K-12 teachers by providing a clear instantiation of the connections within the CA:SRL framework."

The advent of this approach allows for a new direction in the world of CA with implications for current and future educators, with hopes that K-12 and higher educators can apply the theory to their classes. Jacqueline Papatsos hopes that her colleagues will read and implement the CA:SRL model as a school-wide initiative.

Nevair Oranjian

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On a personal note, It was an honor and pleasure to be able to review the article written by my mentors and former professors. My years learning from both Professor Chen and Professor Bonner have profoundly influenced my research interests and my career directions. Thank you both for sharing your knowledge and expertise in CA and SRL.

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Reflection: Self-Regulated Learning & Assessment During the Most Extraordinary Times!

Aldean Beaumont-Tynes *(Queens College & Seton Hall University)*

We are living in extraordinary times! We are not only in the midst of a worldwide pandemic that has claimed hundreds of thousands of lives, but we are dealing with the public outcry and mass protests sparked by the unjustified killing of Mr. George Floyd. In a time of such vast uncertainty, one certain thing is that during these extraordinary times, we need extraordinary people to do extraordinary things.

The need to be extraordinary does not end with our essential workers or activists; the need to be extraordinary also extends to educators. As a professor and a school psychologist, I quickly realized that merely being "good" at the job is not sufficient during these times.

Amid a pandemic and a shift to distance learning, we were forced to quickly rethink and transform how we teach and assess our students. Not only were our roles changed, but so were the expectations we had for our students. Now, more than ever, we expected students to put their self-regulated learning strategies into action.

When these changes did not happen at the rate I expected, I questioned students' commitment to academic success. What I should have been questioning, however, was my *expectation* that students would utilize strategies they might not have ever learned. In Chen and Bonner's (2019) "A framework for classroom assessment learning, and self-regulation," they address just this issue; that is, the expectation that students will utilize these strategies even though they have not had explicit instruction in self-regulated learning (SRL).

Chen and Bonner assert that "…SRL is rarely taught in classrooms" and goes on to note that "…this is unfortunate because, without explicit instruction in SRL, students do not naturally develop more or better SRL strategy and use as they mature" (p. 2). I soon learned that even my adult students struggled to use SRL strategies during this time.

Chen and Bonner developed the Classroom Assessment (CA): Self-Regulated Learning (SRL) Framework to incorporate self-regulation into the assessment process. The CA:SRL has four stages: pre-assessment; the cycle of learning, doing, and assessing; formal assessment; and summarizing assessment evidence. I especially appreciate this framework because it ensures that SRL practices are intertwined into the assessment process.

We are continually assessing our students, whether through formative or summative means. This framework ensures that we integrate SRL strategies, including understanding students' motivation, strengthening metacognitive skills, setting goals, and exchanging feedback between students and teachers. We encourage students to practice self-control and self-monitoring through formal assessments, self-evaluation, and reflection.

Classroom assessments should not be viewed as a separate and distinct process from self-regulated learning. If we expect students to utilize SRL strategies, we must ensure that we are doing our part to develop these skills explicitly. If all educators, from pre-kindergarten to graduate school, integrated the CA:SRL Framework into their teaching-learning practices, we would find that our ordinary teaching could lead to extraordinary outcomes!

References are listed on Page 21.

Aldean Beaumont-Tynes

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Review of Chen and Bonner's Article *A Framework for Classroom Assessment, Learning, and Self-Regulation*

Maria K. DiBenedetto & Dale H. Schunk
University of North Carolina at Greensboro

It is a pleasure to review the article written by Chen and Bonner on a conceptual framework for integrating classroom assessments with Zimmerman's three-phase model of self-regulated learning. Chen and Bonner's integration of assessment and self-regulated learning provides insight into how teaching and assessing can be organized in a way that can be useful to educators and students by breaking the process down into stages embedded within Zimmerman's model.

While there are many strengths to the integration, two that resonate most with us are the presentation of the framework from both teachers' and students' perspectives and the concepts of socially shared regulation and co-regulation of learning.

Chen and Bonner's framework of classroom assessment (CA) and self-regulated learning (SRL) consists of four stages: 1) pre-assessment, (2) the cycle of learning, doing, and assessing, (3) formal assessment, and (4) summarizing assessment evidence. The framework is intuitive to teachers who grapple with many assessment issues, such as developing assessments that are valid, reliable, fair, and promote student learning (DiBenedetto & Schunk, in press).

The framework is useful not only for educators but also for students, as it supports student learning, motivation, and co-regulation. What we found most striking about the framework is that through the four stages, students can be actively involved in assessments and become more regulated in their preparation, taking, and reflecting on assessments.

Chen and Bonners' first stage of the CA:SRL framework involves pre-assessments and the forethought phase. During this stage, teachers begin to plan classroom assessments that are valid and standards-driven and provide formative information about students' understanding of the content. Students begin to set goals for themselves, become metacognitively aware of what they know, and develop plans to improve understanding and content knowledge.

The second stage involves the cycles of instruction and learning and the second SRL phase of performance. Teachers develop progress assessments that are closely aligned with the class content and involve frequent interaction with students, along with encouraging students to interact with peers.

In Stage 2, as students demonstrate learning, teachers adapt their instruction to meet their instructional learning goals. Students continue in the learning process as they engage in strategies such as problem-solving, imagery, self-control, and metacognition. Teachers observe students and gauge areas where more instruction is needed or additional planning and differentiated-strategies are required. This stage involves multiple iterations of assessment and learning and helps provide progress information to both teachers and students.

Stage 3 of Chen and Bonner's CA:SRL framework is included in the performance phase because at this stage assessments are part of a formal assessment that provides students an opportunity to carry out performance without teacher scaffolds or support. These outcomes of the performance can be part of the students' grades. Assessments and rubrics created by teachers are focused on meeting academic standards and are primarily content-related and frequent, allowing educators to continue to make adaptations to improve student learning.

During Stage 3, students should be able to exercise self-control by demonstrating their skills, practicing with no to low scaffolds, and independently monitoring their progress as they prepare to take more formal assessments. Feedback from teachers and peers is particularly critical as students can monitor their progress and adjust learning as needed.

> "Chen and Bonner's excellent framework provides an opportunity to empower educators and students by describing how an assessment process embedded in instruction can increase student engagement."

The last stage of the CA:SRL framework involves summarizing students' performance and falls within the self-reflection phase. Teachers pause to summarize and evaluate students' performance as they reflect on their instructional approaches and evaluation of student learning. Students react and evaluate their performance, reflecting on their satisfaction levels, and making attributions to their outcomes. This stage is critical in that inferences that are made by teachers and students impact future iterations of the CA:SRL cycle.

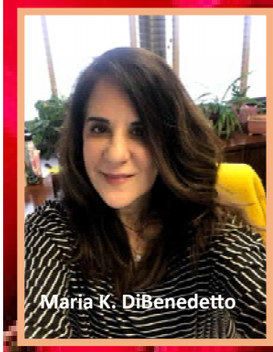
The stages of classroom assessment fit well within the three phases of self-regulated learning, and there are many benefits to framing classroom testing within the SRL model. Motivation is typically not associated with test development and test-taking as many teachers feel ill-prepared, and many students experience feelings of anxiety and fear of failure (DiBenedetto & Schunk, in press).

Chen and Bonner's excellent framework provides an opportunity to empower educators and students by describing how an assessment process embedded in instruction can increase student engagement. Frequent and specific feedback by educators and peers help students focus on controllable external attributions for performance and assist teachers in adapting instructional approaches to help meet students' learning needs.

We highly recommend this article to anyone interested in understanding the complexity of classroom assessments for teachers and students and how the assessment stages can be integrated with self-regulated learning to improve student learning and motivation.

References are listed on Page 21.

"We highly recommend this article to anyone interested in understanding the complexity of classroom assessments for teachers and students…"



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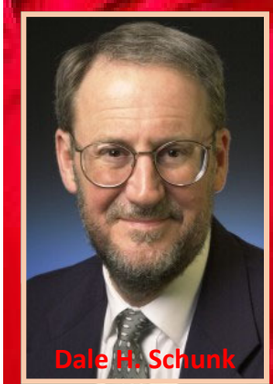

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Creating Classroom Contexts to Support the Development of Self-Regulation: The Case for Classroom Assessment

Stephen J. Pape, (*Johns Hopkins University) &*
Clare V. Bell (*University of Missouri—Kansas City)*

There has been a proliferation of research on self-regulated learning (SRL) that has provided significant evidence for the efficacy of the theory, as described by Barry Zimmerman and colleagues. More recently, scholars such as Chen and Bonner have begun to bridge the research-practice divide by providing explicit instantiations of this theory for the K-12 classroom.

As a student in a seminar led by Dr. Zimmerman, Stephen recalls thinking that he wished he had known about this theory when he was a young teacher in New York City. In 2005, he opened an article titled *Interventions that Support Future Mathematics Learning: Developing Self-regulated Learners in K-12 Classrooms* with the following statement:

As a middle school mathematics teacher, I rarely asked students how they would prepare for an upcoming exam. I seldom attended to how students were making sense of the mathematics they were learning in my class. When I did ask, I often found students had difficulty identifying the strategies they would use. (Pape, 2005, p. 77)

In their presentation of a framework depicting the relationship between classroom assessment (CA) and self-regulation (CA:SRL), Chen and Bonner (2019) have provided a unique perspective on SRL theory. Although based on the body of literature of Zimmerman and colleagues, they have also broadened Zimmerman's social-cognitive perspective through the inclusion of complementary theories and theorists.

The authors provide a cogent and practical explanation of theory and research, but, more importantly, they have made the theory and research explicit for K-12 teachers by providing a precise instantiation of the connections within the CA:SRL framework. Intentional teaching sequences that make SRL phases explicit and highlight and foster students' SRL development are critical to bringing SRL theory to the K-12 classroom.

Chen and Bonner's CA:SRL framework illustrates the complex nature of the teaching and learning endeavor. Teachers' feedback is critical to students' processing of content knowledge and the self-beliefs that structure and guide their present and future behaviors. Connecting the subprocesses involved in the CA:SRL framework with "inferences, interactive feedback, and use" provides the practitioner concrete mechanisms for supporting student SRL development.

Students and teachers must make inferences from the information they have gathered from assessment episodes, whether the episodes occur during instruction or following a segment or unit of assessment. Students use feedback to make inferences about their understanding of content and their behaviors that result in this understanding. Teachers make inferences from individual assessment episodes as they generalize to the student's broader attributes and instructional practices.

The authors' highlighting of the interactive nature of feedback for learning and of learning is the critical point of their framework. Students and teachers must be "active agents and purposeful in using feedback to move forward" (p. 15).

Teachers and students must act upon feedback for it to have the developmental potential envisioned by the authors. "By emphasizing use in CA:SRL, we suggest that engaging students and teachers in co-regulation of learning can direct the use of assessment towards positive motivation, attitude, and learning gains" (Chen & Bonner, 2019, p. 17).

Chen and Bonner's work aligns with our thinking relative to classroom contexts for supporting students' development of SRL strategies, mathematical knowledge, and self-knowledge. In our work (e.g., Pape, Bell, & Yetkin-Ozdemir, 2013), we have considered teacher behaviors relative to student development through the SRL levels posited by Zimmerman and colleagues.

We argue that teachers tacitly shift their instructional practice relative to their knowledge of students' progress. Chen and Bonner's CA:SRL framework adds to this notion of classroom contexts that support SRL development by providing a compelling and concrete instantiation of SRL theory as it relates to the everyday work of teachers and students within the assessment. They have delineated the phases of a lesson from an assessment perspective.

We are enthusiastic about this novel perspective on both SRL theory and practice as we continue to move this vital perspective into the everyday practice of teachers and students.

References are listed on Page 21.

Stephen Pape is a Professor of Education at Johns Hopkins University. His research focuses on online learning environments and technology-enhanced classroom contexts that foster mathematical understanding and SRL.

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The CA:SRL Framework: A Birds-Eye-View of Teacher-Student Interactions and Learning

Anastasia Kitsantas (*George Mason University*), Eleni Morfidi (*University of Ioannina, Greece*), & Neesa S. Ndiaye (*George Mason University*)

Panadero, Andrade, and Brookhart (2018), in a systematic review of the literature, indicated the importance of fusing Formative Assessment (FA) and Self-Regulated Learning (SRL) and hoped to see other researchers endeavor to "push FA/SRL to its full potential" (p. 28). They also noted that fusing FA and SRL has primarily been attempted by researchers with minimal SRL experience. In light of these recommendations, we found Chen and Bonner's (2019) work particularly promising.

Chen and Bonner, both experts in FA and SRL, present a conceptual framework that cohesively fuses the practice of classroom assessment (CA) with SRL to support instruction and student learning.

The authors' framework combines CA with the three phases of the SRL model: forethought, performance, and self-reflection; and is described in four stages: 1) *pre-assessment, 2) the cycle of learning, doing, and assessing, 3) formal assessment, and 4) summarizing assessment evidence*. These are tied together to capture useful inferences from interactive feedback, which ultimately influences teacher and student behaviors.

We believe the bridging of CA with SRL primes the instructor to view and apply the most current practices from a scaffolding perspective. Of particular interest is the highly iterative Stage 2 with the continuous cycles of assessment and instruction feedback. This stage of the framework has the greatest potential for contributing to a dynamic, collaborative learning process. It provides a structure where teachers can support student self-regulation while engaging in the reflective self-regulatory practice.

The framework is somewhat intuitive and requires more empirical evidence to support its validity. It also acknowledges individual differences in Stage 1, yet a classroom can have a full range of abilities and individual differences in assessments. We are confident that the authors, in future publications, will provide more details about the instructional approach while remaining cognizant of learner affect/motivational beliefs.

The concept of co-regulation and shared regulation within the CA:SRL framework is interesting and deserves more investigation. Structuring the environment for students to interact and learn from their teacher, peers, and own personal successes and failures are the future of a more progressive and empowering approach to instruction and learning. Feedback is also an essential concept in the framework which describes the appropriate scaffolds teachers should introduce to improve self/peer assessment practices. However, the description and conditions under which peer feedback would be most fruitful need additional clarification.

The current pandemic, and the imposition of virtual learning and teaching on all levels, precipitates the need for a vehicle for teaching and supporting CA and SRL across domains. Learning Management Systems (LMS) have been widely used for teaching purposes, even though assessment procedures can be limited and ill-defined. Stages 1-3 carry useful information for addressing assessments in these contexts. Currently, video conferencing and chatting serve as key informants to instruction and continuous feedback iterations.

Conclusion

The CA:SRL framework provides students with the tools they need to work independently or cooperatively with their teacher and/or peers. Every student's action in the learning context is a source of information that can inform and improve instruction as well as keep assessment a continuous dynamic process. With scaffolding and feedback, students will be able to move into the examination or performance stage of the framework. They must be able to demonstrate what they have learned independently of any assistance.

While the initial stages are geared towards the student, Stage 4 (summarizing) is most relevant for the teacher. It is the stage where the most growth as an instructor can happen through reflective practice. Therefore, the CA:SRL could also serve as a foundation for professional development training of pre-service and in-service teachers. Overall, Chen and Bonner have provided a comprehensive framework that certainly would guide educators at all levels and stimulate students' agency and self-regulated learning.

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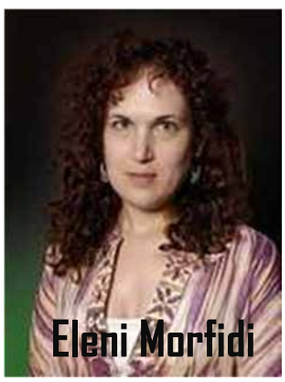

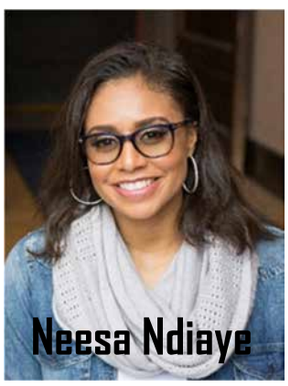

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Assessment Is the Process By Which Learning Is Managed and SRL Is Developed

Marie C. White (*Center for Advocacy and Learning*)

@*Framework for Classroom Assessment, Learning, and Self-Regulation* makes a significant contribution to how educators measure learning outcomes. Peggy P. Chen and Sarah M. Bonner skillfully call attention to the value of implementing classroom assessment within the context of engaging learners in self-regulation. The framework presented in the article fulfills the intentions of the authors to bridge the gap between theory and practice in a way that encourages learners to engage in a process that can increase their proficiency in SRL practices in the context of both formative and summative assessments.

The CA:SRL model provides an innovative approach to outcome analysis, linking classroom assessment methods to self-regulated learning. Their investigation of how students interpret and use information gained through consistent and continuous feedback provides a direct connection to the measurement of student progress. Too often, practitioners become driven by assessment practices that do not lead to changes in the behaviors that impact student learning.

Chen and Bonner offer educators an opportunity to provide input at the very first stage to assist students in setting realistic goals. Through the interactive nature of the process, the teacher and learner remain engaged until the final stage, in which both teacher and student evaluate progress.

Self-regulation requires a level of competency before learners can begin to use self-regulatory strategies outside of the presence of a model or teacher. Our diverse classrooms include learners who often require multiple iterations of SRL, within the cyclical phases while progressing through the levels of attaining SRL competency. This process is depicted in an integrated model of SRL assessment (White & DiBenedetto, 2015, 2018).

The integrated framework incorporates both cyclical phases and hierarchal levels of attaining self-regulatory competence with an emphasis on assessment. Instruction that supports SRL accounts for individual differences in students, and, as a result, closely monitors students' responses to assess SRL competency at each level of attaining self-regulation. The process promotes the development of self- regulation, through the strategic use of self-monitoring, formative assessment, self- evaluation, feedback, goal setting, learning objectives, and self-reflection (Bembenutty, White, & Vélez, 2015).

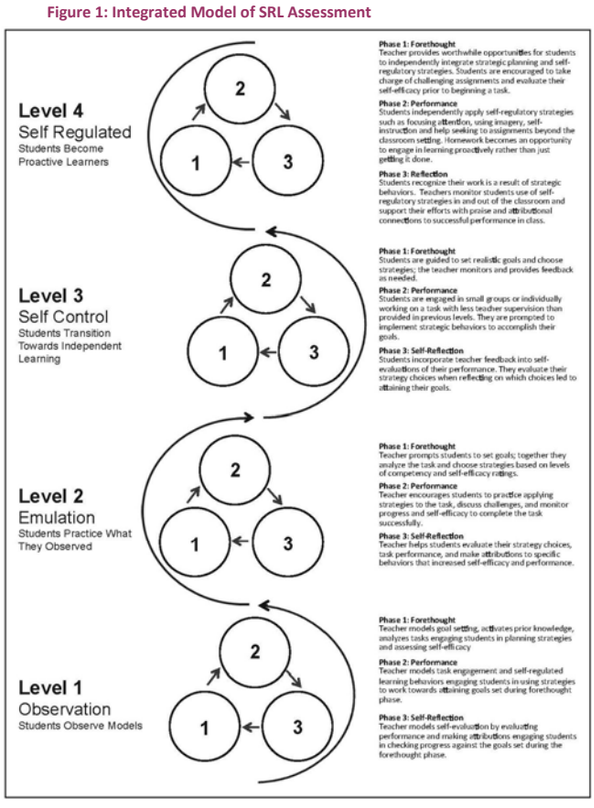
Integrated Model of SRL Assessment

Complementary to Chen and Bonner's framework, White and DiBenedetto's integrated model focuses on how the cyclical phases of self-regulation are situated within the levels of attaining self-regulatory competency (see Figure 1). The model provides teachers with a systemic approach to individual SRL development. Throughout the process, learners are assessed as they progress from observing the model to being self-regulated while doing the task.

In White and DiBenedetto's integrated model, educators can set the pace for learning by paying closer attention to students' behavior by assessing their progress as they move through the cyclical phases of self-regulation (i.e., forethought, performance, reflection) and advance through the four levels in the multilevel model of attaining self-regulatory competency (i.e., observation, emulation, self-control, and self-regulation; Zimmerman, 2013).

The teacher models the desired behavior while supporting the students to emulate the behavior, gradually shifting to student-initiated self-control and self-regulation (Pape, Bell, & Yetkin-Özdemir, 2013). Self-regulation is attained when the learner can work on a task independently (White & DiBenedetto, 2015; Zimmerman, 2013). Throughout the process, learners are assessed as they progress from requiring additional modeling to retaining an image of the model's actions while doing the task. To provide teachers with a systemic and measurable approach to individual SRL assessment, Figure 1 depicts how cyclical phases of self-regulation are situated within the levels of attaining self-regulatory competency.

Figure 1: Integrated Model of SRL Assessment



Conclusion

Chen and Bonner designed a valuable framework filled with practical approaches to the development of academic SRL in learners with an emphasis on processes that represent a generalizable assessment model. As referred to in the article, research supports the dynamic nature of self-regulation because learners continually evaluate and adapt their performance against a standard or a modeled behavior through three cyclical phases.

SRL's feedback loop is the strongest indicator of how a learner is acquiring useful information during one phase that can help adjust their approach for the next phase of the learning cycle (Hattie & Timperley, 2007). Zimmerman (2013) stressed the influential role of feedback as to how self-regulated learners have their attention drawn to components of the social and physical environments, the results of their actions, and the thinking processes about a given task.

Chen and Bonner have brought to the forefront an assessment process that links SRL theory with practice and includes the need for multiple iterations for students to learn and retain how to use SRL strategies effectively. Their framework successfully incorporates classroom assessment practices into the direct teaching of SRL strategies. The direct and indirect relationship between teacher and student adds a dimension to the assessment process. The student is not left in isolation to figure out how to apply feedback to a specific task. The presence of the teacher throughout the process takes the learner out of isolation and into a socially directed learning experience. Assessment need not be the end of the process, but the process by which learning is managed and SRL is developed.

References are listed on Page 21.

Marie C. White has a private practice at the Center for Advocacy and Learning. Her research focuses on cognitive modeling, curriculum standards, help seeking, and social emotional learning.

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Review of Chen and Bonner's *A Framework for Classroom Assessment, Learning, and Self-Regulation*

Timothy J. Cleary (*Rutgers University*)

Chen and Bonner (2019) present a multi-faceted conceptual framework for merging classroom assessment (CA) practices with self-regulated learning (SRL) principles. The authors developed this model to underscore the natural synergy between CA and SRL practices and to address concerns that CA often lacks an appropriate theory of action. The four-stage framework, CA:SRL, calls attention to the frequent, ongoing interactions between students and teachers, and how these exchanges represent opportunities to optimize feedback, student learning, and instructional effectiveness.

From my perspective, the CA:SRL framework is critical because it seeks to enhance the validity or meaningfulness of inferences that one makes across both informal and formal classroom assessment activities in schools. In addition to underscoring the value of gathering CA data in general, this paper supports the premise that aligning CA data with SRL initiatives and principles enhances the potential for educators to make effective adaptations and decisions regarding optimal classroom learning experiences and instructional practices.

In this article, several specific themes stood out as being particularly important and useful to educational practice. One of the most critical things K-12 educators can do is provide their students with opportunities to enhance self-awareness of their behavior, cognition, and/or performance. Across elementary and secondary schools, students are often not mindful of the subtleties and nuances of task demands and, in many instances, overestimate their capabilities.

Since K-12 teachers are content experts and have intimate knowledge of the subtleties and inherent challenges of their assignments and course content, they are ideally positioned to provide task-specific and regulatory feedback for students through the four stages of CA:SRL. More importantly, from an SRL perspective, I agree with their premise that teachers should take a lead role in devising and encouraging students to use checklists and other monitoring tools to track the things that teachers perceive as most essential.

From my perspective, an increased focus on self-observation tactics in classroom contexts will have the dual benefit of increasing the amount of feedback to which students have access and promoting student autonomy and self-directed behavior.

It is also essential to underscore Chen and Bonner's (2019) four-stage model and its focus on student SRL and performance across informal, brief, and/or day-to-day classroom activities (Stage 2) as well as more broad learning or performance situations (Stage 3). This distinction in granularity calls attention to the fact that SRL processes are relevant for assessing and considering at different levels of CA practices used in many classrooms. I make a similar point in my school-based intervention, Self-Regulation Empowerment Program (SREP; Cleary, Veldardi, & Schnaidman, 2017).

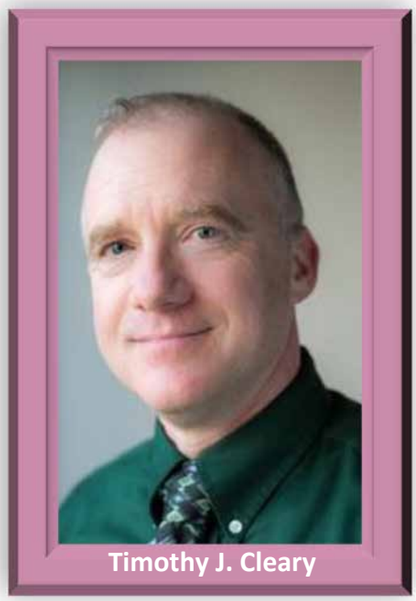
The key objective of SREP is to enhance student motivation, metacognitive skills, and strategic behaviors as they encounter challenges during school learning. Throughout the intervention, students are prompted to engage in cyclical feedback loops that vary in focus and scope. That is, students are taught to engage in cycles of thinking and action (i.e., forethought, performance, reflection) as they complete weekly course assignments and activities (akin to Stage 2 in CA:SRL) and in relation to more broad and formal performance outcomes, such as a unit exam (related to Stages 3 and 4 in CA:SRL).

Similar to how Chen and Bonner emphasize the direct link between Stage 2 (inform performance, interactive assessment) and Stage 3 (formal assessment and performance), SREP emphasizes that engaging in feedback loops about daily or weekly course activities are in the service of attaining the more broad goal of optimal exam performance.

Finally, I applaud the authors' focus on reflection activities as part of CA:SRL. For students to engage in adaptive and healthy forms of self-reflection, they need to utilize appropriate standards against which to self-evaluate. The CA:SRL model offers several examples of self-evaluative standards, including student predictions and postdictions about performance, student goals, or teacher-generated standards.

From my perspective, because students in school contexts often do not receive enough structured guidance and opportunities to practice and refine their self-reflection skills. The CA:SRL provides an important conceptual step toward guiding teachers towards this end.

References are listed on Page 21.



Timothy J. Cleary

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Leveraging Teachers and Students' SRL with Social-Emotional Skills in Challenging Classroom Assessment Practices

Bracha Kramarski, Orna Heaysman, Yafit Moradoff, & Yaron Amiga
(*Bar-Ilan University, Israel*)

Peggy P. Chen and Sarah M. Bonner introduced an integrated framework to enhance classroom assessment (CA) with self-regulated learning (SRL) implementation. They offered guidance for learners' and teachers' roles in those practices. It is a productive idea because CA:SRL is both iterative and shares cyclic processes that can be viewed as aligned. Moreover, assessment is an integral part of everyday teaching, and introducing SRL through it is an innovative idea that could be a useful natural tool for teachers' and students' daily practice.

The authors suggest that the combined CA:SRL framework may naturally help in enhancing students' self-judgment assessments calibration, for tracing their SRL events that are an initial part of SRL processes. Thus, students can be asked to judge their confidence when performing the task, and they can compare these judgments with their actual performance – higher correct calibration means higher SRL.

Combining frameworks for raising SRL in teaching and learning is a fruitful idea in coping with the reality of very little explicit classroom instruction in SRL (Lawson et al., 2019; Kramarski & Kohen, 2017). It is necessary to provide teachers with the relevant frameworks so that they could practice it in their *dual roles* as learners and as teachers to help their students in SRL.

Following this fruitful idea for integrating SRL in relevant contexts, we suggest possible implications from the article by applying SRL to teaching and learning during the *Covid-19 pandemic*. While the proposed framework in the article relies mainly on the cognitive-metacognitive SRL aspects, we suggest leveraging SRL in schools by empowering the affective social-emotional learning (SEL) aspects.

During the Covid-19 pandemic, teachers have to deal quickly with *dual* experiences as learners/teachers: they must adapt to new teaching techniques and online media (e.g., Zoom) in a short time, while on the other hand, lead and support students cognitively and emotionally. The sudden transition in the learning format from students in a classroom to online and socially distant learning can lead to loneliness, lack of connectedness, and anxiety, thus evoking the need to incorporate ways for sharing and reflecting on emotions and strengthening feelings of connectedness and self-efficacy.

In online learning, students learn in a separate environment from their teachers and peers, which forces them to become more independent learners and requires increased use of their SRL skills. Inspired by this theoretical combination of frameworks as suggested in the article, we recommend the integration of self-regulated learning and social-emotional learning *SRL-SEL* to address those two needs that have increased in the online learning resulting from Covid-19.

We want to share our relevant research experiences and practical implementation from the "*multi-dimensional SRL project*" supported by ISF. It is designed to enhance SRL assimilation in the classroom through a unique professional development program using simulations with professional actors. We have included in the project a social-affective layer at both levels - students and their teachers, as active agents at every stage of the program.

First, we included a systematic self-judgment measurement process, including open written reflections both for teachers and their students, in metacognitive and social-emotional aspects. Second, we used simulations with professional actors designed to raise teachers' awareness of the emotional-affective elements of students' learning.

Third, to address the need to help teachers make their teaching relevant to the new media, and support them in enhancing the class's sense of belonging and students' self-efficacy, we provided teachers with access and knowledge to online and technological tools. One example was the "Emotion blocks," where students chose an emotion block and reflected on their choice by themselves or with a friend (see fig. 1). The teacher can also ask the students to rate the strength of the emotion from 1 to 5 to enhance more accurate reflection.

Another example of a tool to support SEL, used in one Israeli school during the lockdown, is "spin the feelings wheel": a game that encourages students to express their emotions and enhances their self-esteem and connectedness. The wheel makes use of the online platform as a game (Wheel of names), and the teacher inserts the content. It can be affective-social (see Fig. 2), it can prompt SRL (see Fig. 3), or used for any content chosen by the teacher. The game can also be used as a prompt for personal written reflection in a "feelings journal" or to be shared in pairs.

It is essential to consider training in the use of technology and online learning, and paying attention to affective issues, as they become an integral part of teaching that's here to stay. In an unfolding pandemic, we need to address not only the current issues in education, but also look to the future. This means that we must have an integrated approach to provide for the growing needs of teachers and students. We recommend further study should focus on the connection between SRL and SEL frameworks in diverse learning environments.

References are listed on Page 21.

Figure 1: Examples for "Emotion blocks"

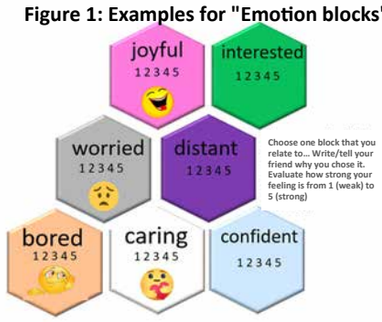

Figure 2: "The spinning wheel" –SEL prompts

Figure 3: "The spinning wheel" –SRL prompts

The Metacognitive Wheel


Bracha Kramarski


Orna Heaysman


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It Takes Three to Tango: Classroom Assessment, Self-Regulated Learning, and Culture

Héfer Bembenutty (*Queens College*)

Chen and Bonner 's framework for classroom assessment, learning, and self-regulation argues that classroom assessment and self-regulation are two essential components that need to be ingrained in all curriculums.

Chen and Bonner introduce their conceptual framework presenting a symbiotic relationship between classroom assessment (CA) practices and self-regulated learning (SRL) theory, the CA:SRL model. They argue that CA and SRL are both necessary to support instruction, learning, and performance.

Derived from Barry J. Zimmerman's (2013) three cyclical phases of self-regulation (i.e., forethought, performance, and self-reflection), Chen and Bonner designed their CA:SRL model. Their model incorporates four stages: (1) pre-assessment, (2) the cycle of learning, doing, and assessing, (3) formal assessment, and (4) summarizing assessment evidence.

It is fascinating in the CA:SRL framework how with a careful paintbrush, Chen and Bonner artistically delineate how Zimmerman's cyclical phases are ingrained into the four stages. The authors challenge the readers of their article to enter a new dimension in the CA and SRL conceptualization.

This review highlights the vital role that culture plays in CA and SRL. Cultural factors are essential elements in all educational endeavors. Culture affects how teachers teach and how students learn. A crucial source of cultural influence on students is their parents. It is well established in the literature that learners' culture influences their self-efficacy beliefs, goal setting, willingness to delay gratification, use of learning strategies, adaptation, and attributions.

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The Homework Cyclical Self-Regulated Culturally Proactive Model

A vital formative learning assessment, also influenced by self-regulation, is homework. Students' disposition toward homework is affected by both the classroom and home cultures. With that understanding, Bembenutty (2019) designed *the homework cyclical self-regulated culturally proactive model*. His focus on homework is relevant to Chen and Bonner's framework since homework is considered the most frequent assessment conducted by most teachers.

Bembenutty and Hayes (2018) provided support for effective instruction that could enhance homework completion by cyclically construing the instruction following Zimmerman's model. However, homework as an assessment tool is ineffective without both educators and students being culturally aware of their dispositions, values, and beliefs.

Bembenutty emphasized that parents are essential to classroom success because children learn about their culture and how to respond to classroom assessment and self-regulation from their parents. Concomitantly, teachers bring their culture to their classroom, which guides the ways they construct assessment, provide feedback, and interact with their students. Teachers and students in the classroom behave in consistencies with their socio-cultural values.

Bembenutty formulates that his model is cyclical because it starts in the classroom, continues at home, and returns to the classroom to unload the CA, SRL, and cyclical cultural loop (see Table 1; see Bondie & Zusho, 2018; Kramarski & Kohen, 2017; Panadero, Andrade, & Brookhart, 2018; Pape, Bell, Yetkin-Özdemir, 2013; White & Bembenutty, 2014, 2016; White & DiBenedetto, 2015, for complementary models). It is also cyclical because, in every class, both teachers and students engage in forethought by identifying the lesson's objectives, self-monitoring performance, and self-reflecting on assessment outcomes.

At home, parents also could support learning by helping their children with assessments, such as homework, and by engaging them cyclically as teachers do in the classrooms. In school, teachers serve as cultural role models of self-regulation, whereas at home, parents serve that role. However, it is the student's responsibility to approach learning and assessment with self-regulation.

Parents are often the missing link in most learning models. Nevertheless, Bembenutty posits that parents have the responsibility to enhance their children's self-efficacy, promote goal setting and willingness to delay gratification, and assist them to choose appropriate strategies while engaging in crucial learning assessments, such as homework.

Conclusion

Chen and Bonner have done a commendable work by emphasizing the association between CA and SRL. Bembenutty's *homework cyclical self-regulated culturally proactive model's* emphasis on culture and parents complements Chen and Bonner's framework. The cliché is, it takes two to tango, but in his model, it takes three to tango: CA, SRL, and Culture.

In great part, thanks to Chen and Bonner, assessment in the classroom is an activity aligned with self-regulation. They remind us to consider self-regulation and assessment as a unified entity to produce proactive learning and performance. Chen and Bonner gave us a valuable framework, with methods and resources that will generate significant changes in our educational systems.

Table 1. Examples Components of the Homework Cyclical Self-Regulated Culturally Proactive Model

Phases	SRL Processes	Teachers	Parents	Students
Forethought	Self-efficacy	Communicate the belief that all students can learn and perform designated tasks	Provide verbal prompts assuring children that they can do it	Acquire the necessary skills that will foster self-beliefs to obtain an A in the homework
	Goal setting	Identify the specific personal outcomes after providing an appropriate instruction	Identify immediate and long-term goals important for the family	Complete 20 math problems in an hour
Performance	Delay of gratification	Describe how long-term goals can be achieved by postponing immediately available but less valuable rewards	Model how to make choices between immediately available rewards that preclude reaching important sociocultural goals	Prioritize between highly valuable but temporarily distant rewards and immediately available competing rewards that could distract from important goals.
Self-reflection	Self-evaluation	Compare the homework outcomes with the standards	Help children to judge their homework performance with their goals	Refine homework outcomes when they are below standards

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The Importance of Self-Reflection

Alysha Phillips (*Music Teacher in New Bedford, Massachusetts*)

For many years, I did not realize the importance of student reflection. Growing up, that was not something my teachers had us do. We were rarely asked to review our work and give feedback to our teacher or our peers.

Typically, we were handed back our assignment with our marks and a few comments. We would review the assignment in class and then time to move on, not allowing me to understand the questions I had gotten wrong.

I always enjoyed the few times that I was able to engage in some peer-reviewing because I was able to receive extra support from my peers. Often, their explanations were more natural for me to understand than my teacher's.

As a teacher, I have realized the importance of these actions to my students and implemented them in my classroom. There has been an incredible change in the way my students learn and evaluate their work.

I currently teach middle school chorus and orchestra in a low-income area. The students are conscientious, and I value them all. After every concert, we would watch the recording to listen to the various songs, voice parts, shuffling in-between songs, applause, and more.

When one is part of a chorus, it is difficult to see or hear the entire event taking place in real-time. It is only after when viewing or listening, one can listen to what happened during the performance. Since having my students review their performances, I have seen improvement in their behavior in concerts, as well as their singing and stage presence. The students realize how they look to the audience, how they sound, and if they are engaged.

As part of the reflection, the students would talk about their views and ideas after viewing, and almost all students agree with what they see. Many students love to hear peer feedback, and they appreciate it coming from someone who experienced the event with them, not an "outsider." It has increased their etiquette and quality of performance ten-fold.

I recently started implementing this same practice in the everyday classroom. I ask students to sing a part in front of the class and let other students critique them with a "positivity sandwich" (positive comment, constructive criticism, positive comment). The students have become significantly more engaged in the class. They hear firsthand what I am listening to and participating in reflective processes.

As my students notice more things than I do, I consider their comments for my assessments. With remote learning, I asked my students to submit recordings of themselves singing their part to me and asked them to provide feedback on their recording, allowing them to engage in self-reflection. This is a challenge as they are middle-schoolers and are not as self-efficacious, yet. However, they are starting to notice the things that they need to improve in their singing.

A Framework for Classroom Assessment, Learning, and Self-Regulation by Chen and Bonner (2019) reinforced what I have been learning in my classroom. Students need to review tasks on their own, and with peers, to achieve the greatest success in the reflection of their work.

Teachers then need to take their experiences in the classroom and reflect on them as well. The teacher experience is all about receiving information, reviewing it, and then implementing it to improve their students' education.

With Distance Learning, it has become challenging for my students to reflect on each other's singing as we are not currently together to perform. I am planning on implementing this by viewing other performances, whether their own or other schools', and having them reflect and learn from the experience, and have their peers share in their reflection experiences.

I could not agree more with this article, and it's the message. As a music teacher, this has been difficult because we are not together to perform, but when Distance Learning is over, this will continue to be an excellent addition to my teaching. As teachers, we are always adapting to our new climate, and with more time and effort, these same principles will be included in distance learning and beyond.

Alysha Phillips

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Reconceiving Classroom Assessment: A Reflection of *A Framework for Classroom Assessment, Learning, and Self-Regulation*

Suzanne Hiller (*Wingate University*)

In a novel article entitled, ***A Framework for Classroom Assessment, Learning, and Self-Regulation***, Chen and Bonner (2019) explicitly outlined how to integrate self-regulation (SRL) with multiple forms of classroom assessments (CA). In particular, the authors indicated a pressing need for models of assessment tied to SRL, which incorporate varying forms of assessment (formative and summative) with practical applications.

The proposed model, coined CA:SRL, is unique in that the model's foundation intersects Zimmerman's Cyclical Self-Regulatory Feedback Loop Model (2013) with a four-stage assessment model. The sequence of the article stems from three sections: (1) a theoretical framework, (2) the relationship between CA and SRL, and (3) essential elements of the CA:SRL model.

The work clearly describes SRL as it relates to the four-stage model known as CA:SRL. Table 1 provides a synopsis of the CA:SRL model in terms of assessment foci, overlay with SRL, teacher and student agency, and ensuing questions. The model is built on a system of co-regulation between student and teacher with enduring features of inference, student/ teacher feedback, and practical use.

In Stage 1, which corresponds to the SRL forethought phase, teachers provide pre-assessments while students set goals, select task strategies, build on calibration as a form of metacognitive monitoring, and develop strong self-motivational beliefs. As prescribed by Chen and Bonner, pre-assessment is a critical practice for teachers to gauge pacing, student misconceptions, attitudes, and interests (see Table 1).

A possible question for further study is whether there is a threshold of complete unfamiliarity with a concept, coupled with pre-assessments, that can decrease self-efficacy. In other words, students with no prior knowledge may become discouraged while taking a pre-assessment.

The two subsequent stages align with the SRL performance phase. The distinguishing features between these two stages are that Stage 2 centers on formative assessments with teacher scaffolding, while Stage 3 includes summative assessments without teacher scaffolding. In Stage 2, teachers develop assessments concurrently with instruction that are fine-grained to support student learning. Students utilize metacognitive monitoring and self-instruction with teacher support.

Stage 3 serves as assessment closure to determine student understanding on an independent level. For Stage 2, the ensuing question is to consider how to motivate students individually and collectively to participate in the CA:SRL process. Without student "buy-in," the allocation of this type of instructional activity may not garner the desired outcomes.

Notably, since this approach relies on the transition from teacher scaffolding to independent behavior, the CA:SRL model aligns with the Multilevel Training Feedback Loop model (Zimmerman & Kitsantas 1997, 1999). Relating the CA:SRL to this model in future work may further assist teachers in transitioning students to higher levels of expertise.

Teachers and students reflect on overall performance in Stage 4. Through a process of co-regulation, student performance is evaluated, and adjustments to task strategies for future attempts are made. Student self-reaction, self-satisfaction, and metacognitive practices are integral to this reflective piece. With ever-changing technological tools and societal needs, one consideration is how this stage, as well as the full CA:SRL model, can be supported by technologically based innovations.

Chen and Bonner (2019) highlighted that while students do not inherently know how to self-regulate, few instructors utilize SRL practices. The current work explicitly outlines ways for practitioners to integrate SRL with assessment tools designed to increase student growth. The CA:SRL model is an innovative tool for instructors at all levels who want to encourage student input and reflection in the learning and assessment process and should be incorporated within preservice training programs.

References are listed on Page 21.

Suzanne E. Hiller is an Assistant Professor and Director of Graduate Education Programs at Wingate University. She served as the Teacher Naturalist with the Smithsonian Institution's National Museum of Natural History. Her research interests center on STEM career motivation, particularly in citizen science contexts.

Table 1. Stages of the CA:SRL

Stage	Assessment practice	Overlay with SRL	Teacher agency	Student agency	Ensuing questions
1	Pre-assessment	Forethought	-Alignment between content instruction and assessment -Identifying pacing, misconceptions, attitudes, interest	-Strengthen meta- cognitive skills -Analyze upcoming content -Set goals -Task analysis -Improve calibration -Increase self-efficacy	Is there a threshold where lack of prior knowledge with pre-assessments decreases self-efficacy?
2	Instruction and assessment for learning (formative) with teacher scaffolding	Performance	-Fine-grained assessment to monitor student understanding -Concurrent, small segmented assessment	-Implement pre-determined task strategies -Build on strong self-motivational beliefs (e.g., self-efficacy) -Utilize calibration techniques	What are ways to motivate students individually and collectively to proactively engage in the process?
3	Assessment for instruction closure (formalized, summative) without teacher scaffolding	Performance	-Design assessment tools as summative measures -Evaluate student understanding of instruction	-Independently practice self-control and self-monitoring. -Utilize metacognitive monitoring to make adjustments while learning	How does the CA:SRL process mirror the Multilevel Training Feedback model?
4	Summarizing performance of student learning	Self-reflection	-Evaluate student progress through co-regulation -Summarize student progress through co-regulation	-Evaluate individual progress through co-regulation -Summarize individual progress through co-regulation	How do technological tools support the CA:SRL process?

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Framework on Classroom Assessment and Self-regulated learning: A Reflection

Carlo Magno
Philippine Educational Measurement and Evaluation Association

Chen and Bonner (2019) conceptualized an integrative model on classroom assessment and self-regulated learning (CA:SRL). The framework explains how the phases of self-regulation are manifested across the assessment stages in the classroom (pre-assessment, informal interactive assessment, formal assessment, and summary of formal evidence and reflection.

The CA:SRL's conceptual framework explained that much of the forethought phase in self-regulation occurs during the pre-assessment stage, the performance phase during the informal and formal assessment, and the self-reflection phase during the summary of formal evidence. In each stage, the teacher co-regulates with the learner where assessment tasks are prepared, and the learner engages on specific self-regulation skills.

Chen and Bonner clarified specific self-regulation skills that happen at each stage of the assessment process. The model's strength is its specificity on the kind or factor of self-regulation and co-regulation that occurs in every phase of the assessment process. The framework emphasized that in every phase of the classroom assessment, a self-regulation phase in Zimmerman's model is dominant.

It can be noted that the three phases of self-regulation can also interactively occur for each stage of the classroom assessment practice. To illustrate during the pre-assessment (assessment before instruction), learners use much of the self-control and self-observation (SRL performance phase) when accomplishing any form of the assessment task. While answering an assessment protocol, task strategies and self-instruction are used to recall prior knowledge required. Learners manage their pace in responding, given the allotted time. When results are generated from the pre-assessment, learners use this information to adapt ways to acquire the skills needed (self-reflection phase) for future performance.

During the informal assessment, the learner starts to set goals and plan strategies in accomplishing the given task. The same SRL forethought, performance, and self-reflection process is also applied during the formal assessment undertaken. The learner gains much of the self-efficacy and outcome expectation (SRL forethought phase) given their experience and progress when the continuous informal assessment is conducted. It can be noted that informal assessment, especially when its purpose is formative, can be continuously repeated until learners become ease in demonstrating the skill (see Magno & Ocampo, 2018). In this case, the self-reflection phase becomes dominant, where learners adapt much of the previous assessment results to further gain and progress for the succeeding (see Figure 1).

During the summary of evidence and reflection, the learner can use the assessment information to set further goals and plan strategies (SRL forethought phase). The learners also start to become aware of the consequences of the actions they have implemented (SRL performance phase) when the assessment results are made clear to them. The SRL self-reflection phase is made clear during this stage in the classroom assessment in the article.

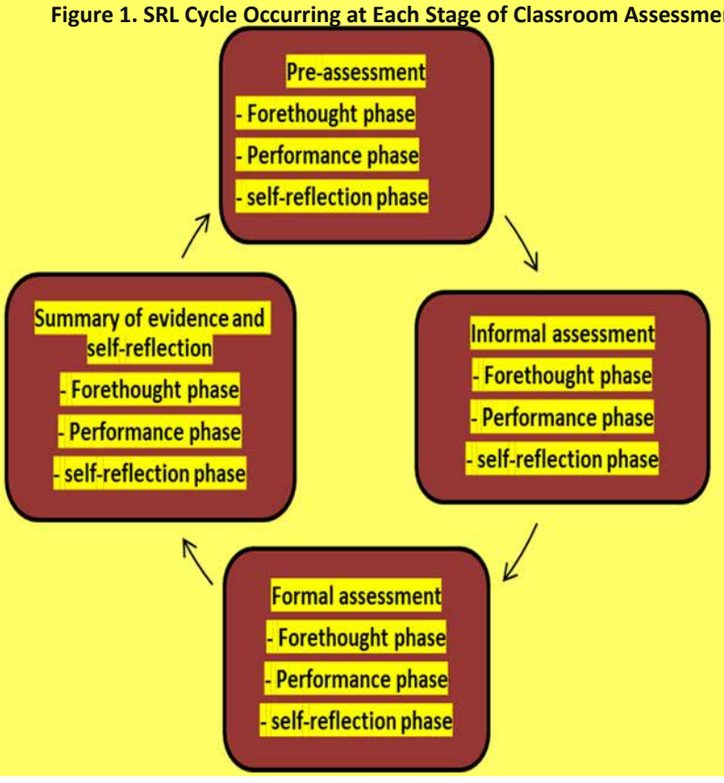
The conceptual framework can be further expanded in future work by adding layers of assessment depending on purpose and type. There are some SRL skills that can become strong when the assessment is formative or summative (purpose). In the same way, the SRL skills in the cycle can have a different structure when assessing skills that are isolated through paper and pen (traditional assessment with right and wrong answers) or when performance-based (where skills are integrated) tasks are conducted.

In conclusion, the conceptual framework on CA:SRL provides a useful tool for further research and classroom practice. Future research can expand the model by offering layers of assessment and testing the model with four phases of classroom instruction. For classroom practice, the model provides important SRL constructs that teachers need to include in their assessment to optimize better learning.

References are listed on Page 21.

Carlo Magno is a board member of the Philippine Educational Measurement and Evaluation Association. He is the founder of the Center for Learning and Assessment Development-Asia (CLAD-Asia) that advocates the use of assessment to improve student learning. He is a consultant to various schools and universities in the Philippines.

Figure 1. SRL Cycle Occurring at Each Stage of Classroom Assessment



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To be Active Agent: Reflection on *Framework for Classroom Assessment, Learning, and Self-Regulation*

Takamichi Ito (*Kyushu University*, Japan)

Peggy P. Chen and Sarah M. Bonner proposed a new theoretical framework to integrate classroom assessment (CA) with self-regulated learning (SRL), termed the CA:SRL. Their framework has a synergistic effect that promotes learning and instruction in the classrooms.

The CA:SRL consists of four stages which are (1) pre-assessment and forethought, (2) informal performances, interactive assessment, (3) formal assessment and performance, and (4) summary of evidence and formal reflection. This model is iterative and cyclical and sets the direction for learning and assessment.

Each stage has an important function, and the relationships between the stages are of particular importance. Namely, inference, feedback, and use guide the action that leads to effective learning and assessment from one stage to the next stage. The CA:SRL is based on the concept of socially shared regulation and co-regulation (Hadwin et al., 2018) and captures the interactivity between teacher and student.

The CA:SRL framework can transform the practice of assessment and create authentic self-regulated learning. Chen and Bonner suggest that SRL has not been integrated fully in daily instruction. I think the situation is the same in most Japanese schools.

In my doctoral thesis (Ito, 2009), I tried to incorporate self-assessment, which encourages cognitive and motivational reflection, into the math class that consisted of several units. The results of the intervention study revealed that classes with both cognitive and motivational self-assessment performed better than classes with only cognitive self-assessment.

The findings of my doctoral thesis could be interpreted as an example of Stage 2 and Stage 3 of the CA:SRL framework. The implication based on this model is that pre-assessment and forethought should be deliberately planned and implemented to ensure that it is linked to Stage 2.

In Stage 2, the teacher should consider connecting the consequences of Stages 2 and 3 with Stage 4, (e.g., a summary of evidence and formal reflection), while taking into account the critical function of feedback. I was keenly aware that to foster self-regulated learning, it is necessary to reconsider my practice from the perspective of a longer-term and iterative cycle.

The world is now suffering from a pandemic, and online classes have begun in education. I have been trying to support students' distance learning at my university. Online learning is an excellent opportunity for students to engage in self-regulated learning. On the other hand, challenges may arise. Thus, we should try to devise ways to support students' positive self-efficacy beliefs, SRL, and outcome expectations as much as possible.

> "Inspired by the CA:SRL framework, I would incorporate it into my research."

Based on the CA:SRL framework, the fact that assessments are shared and co-regulated by the teacher and students is very significant and can ensure the CA's validity and fairness. Thus, it may be necessary to make effective use of a chat and Q&A feedback system online.

As Chen and Bonner suggest, both the students and the teacher have to be active agents at every stage of this model. I still have a lot of trial and error to go through, but I would like to do my best so that the CA:SRL cycle can be established in an ideal form.

I am deeply grateful for the opportunity to read the article written by Chen and Bonner. Inspired by the CA:SRL framework, I would incorporate it into my research. I pray for peace for everyone in the post-pandemic world.

References are listed on Page 21.

Takamichi Ito

Takamichi Ito is an associate professor at the Graduate School of Human-Environment Studies, Kyushu University, Japan. His primary research interest is on teaching and learning processes in educational psychology.

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Response to Chen & Bonner: The Critical Importance of Performance Feedback and Pre-Assessments

Alanna D. Epstein (*University of Michigan*)

The article "A Framework for Classroom Assessment, Learning, and Self-regulation" (Chen & Bonner, 2019) provides an innovative framework to synthesize scholarly literature on the topics of classroom assessment (CA) and self-regulated learning (SRL). Of particular interest is the authors' challenge to distinguish between formative and summative assessment, describing these categories as "misnomers, from which the field should move away." Chen and Bonner further argue that a prevailing focus on the study of formative assessment fails to guide teachers in conducting necessary summative assessments, such as assigning grades, thoughtfully and effectively. The authors conclude that assessments with an "evaluative purpose" should not be viewed as "inherently inimical to learning" if appropriately designed.

In particular, Chen and Bonner suggest that the use of evaluative assessments may improve by drawing from the *self-reflection* phase of Zimmerman's (2002) model of self-regulated learning. They call for educators to communicate assessment performance feedback based on the self-reflection phase components *self-evaluation, self-reaction, self-satisfaction/affect,* and *adaptive/defensive responses*.

The widely perceived adverse effects of summative assessment can be avoided by encouraging students to use assessment results to practice self-evaluation. It can also help to explicitly guide student interpretations of the feedback towards positive self-reactions, self-satisfaction, and adaptive responses. For instance, a strategy to prompt such self-reflection based on assessment results is the use of "exam wrapper" assignments (https://www.cmu.edu/teaching/designteach/teach/examwrappers/).

This proposed approach to evaluative assessments provides valuable improvements. However, the argument that "assessment activities that result in grades and marks are interpreted and reflected upon by students using the same mental processes that self-regulate learning from performance on tasks of lesser consequence" is inconsistent with specific research on academic motivation.

Research on the importance of "freedom to fail" has found that psychological processes related to high-stakes and low-stakes assessment can differ (Lee & Hammer, 2010). As opposed to grading systems based on a few high-stakes assessments, many low-stakes assessments have been found to foster intrinsic motivation.

Another critical point raised in this article is the importance of pre-assessment. The value of tailoring instruction to students' initial motivational beliefs and interests is supported by many research areas, including the *Four-Phase Theory of Interest* (Hidi & Renninger, 2006). This theory suggests that students with differing levels of pre-existing content area interest will also differ in the types of academic tasks they find most engaging. To illustrate, students with high initial interest may prefer a more creative and challenging task, while students with low initial interest may prefer a task with more "attention-catching" features.

Alanna D. Epstein

Another conceptualization of this pattern is Brophy's (1999) motivational zone of proximal development. The *motivational zone of proximal development* refers to the idea that students may fall into three categories in their approaches to a specific task: a) independently motivated to complete the task, b) motivated to complete the task only with motivation-related scaffolding, or c) lacking the motivation to complete the task even with scaffolding.

With the additional student autonomy in the context of online instruction, providing students with a choice of learning tasks based on their motivation and interest may be especially important to promote engagement. To use this strategy, conducting a formal or informal pre-assessment of student motivation is necessary.

A caution, however, is that recent research on relevance interventions shows that students may not always respond positively to attempts to "make material relevant" (Albrecht & Karabenick, 2018). Incorporating student interest or future goals into instruction can provoke an adverse reaction if executed superficially or confusingly, or if the importance of material is emphasized to students with low self-efficacy.

References are listed on Page 21.

Summary of Chen and Bonner (2019) of suggested SRL scaffolds in assessment

Stage 1: Pre-assessment

- Scaffold student forethought phase SRL
  - Goal setting, strategic planning
  - Performance prediction judgments

Stage 2: Informal, "formative" assessment including teacher scaffolds and Stage 3: Formal assessment without teacher scaffolds

- Scaffold student performance phase SRL
  - Tracking own learning progress
  - Checklists
  - Self-assessments
  - Use peer assessment in stage 2 but not stage 3

Stage 4: Summary and communication of performance

- Scaffold student self-reflection phase SRL
- Student self-evaluation
  - Self-assessment
  - Performance postdiction judgments
- Guide adaptive student self-reactions
  - Focus on improvement
  - Provide appropriate external standards
  - Help students create own standards
  - Discuss attributions and growth mindset

In conjunction with the above recommendations, additional suggested SRL scaffolds for online environments include (Wandler & Imbriale, 2017):

- Assigning SRL skill self-assessments
- Assigning regular study plans, logs, and self-evaluations
- Using email or text-message reminders
- Breaking large assignments into sub-assignments
- Providing sample work and rubrics
- Giving explicit instructions and guidelines for peer and instructor help-seeking
- Giving explicit guidelines for use of external online resources and including a list of high-quality sources

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Reflections on Self-Regulated Learning Amidst The COVID-19 Pandemic

Jacqueline Papatsos
Martin Luther School in Maspeth, Queens

The article *A Framework for Classroom Assessment, Learning, and Self-Regulation* published in *Assessment in Education: Principles, Policy and Practice*, Peggy P. Chan and Sarah M. Bonner provide a framework for fostering academic growth and improved instruction using self-regulated learning (SRL) in their four-part process.

The framework process is cyclical and allows for frequent discourse between educators and students. This allows organic growth in both academic and personal goals as students become more independent learners and learn to set intrinsic and extrinsic goals. The authors' process has many benefits in the remote learning context, but I have one reservation about the meta-cognitive analysis levels needed for SRL during the pandemic.

As cited in the article, SRL requires informal assessment that is frequent, happening almost concurrently with instruction. In my classroom, informal assessment is intended to match the various learning styles and needs of the students: one-pagers, exit tickets, do now, Kahoots, and full class discussion about naming a few.

By checking in several times and assessing progress at different steps, teachers and students can acknowledge and rectify gaps in understanding. Summative assessments are equally important because they allow students to showcase what they have achieved in terms of knowledge or skills acquisition. I also agree that self-observation enables the classroom to be more democratic. This is something that I value in my classroom as a means to foster better relationships.

> "SRL requires informal assessment that is frequent, happening almost concurrently with instruction."

The online structure of remote learning could lend itself to more open, direct feedback between students and teacher, and vice-versa. I have been using the app Nearpod during the pandemic to keep students focused and engaged during our daily Zoom meetings. Nearpod shows when students are not on the page and allow you to add in videos, activities, and assessments during the lesson itself in the form of an open-ended response, quiz, or matching game.

The small instances of informal assessment allow for me to peruse and provide feedback, or for the students to give me feedback, instantaneously. Summative assessments in the form of essays or projects have been my preference during the pandemic. They require scaffolding and frequent feedback to demonstrate achieved goals (e.g., through feedback on Google Docs). This works well within the four-part process of SRL.

One thing that I must note is that this is a traumatic period for students. Many students might not have the mental capacity right now to deal with the meta-cognitive analysis that SRL requires, like managing time and practicing self-control. Students are dealing with loved ones dying, the stress in the home due to money or food insecurity, and apathy and depression brought on by the uncertainty of the time.

Educators should be open and flexible when it comes to assignments. I hope that a lot of SRL educators foster a democratic environment that will help students open up about their struggles during this period.

Remote learning can be an excellent opportunity to bring attention to more student-centered learning and the benefits that SRL can bring – college preparedness, better relationships between teachers and students, and higher intrinsic value of learning, to name a few. I hope that my colleagues will read this article and explore some of the suggestions of SRL and implement them as a school-wide initiative.

Jacqueline Papatsos

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The Four Stages of Chen and Bonner's CA:SRL Framework

Daniel Pisari *(City University of New York, Graduate Center)*

Daniel Pisari is a PhD student in the educational psychology program at the Graduate Center, City University of New York. His research interest is in second language acquisition through informal digital contexts such as social media and online games.

Chen and Bonner (2019) present a conceptual framework bridging classroom assessment (CA) practices and self-regulated learning (SRL) over four stages focusing on pre-assessment; the cycle of learning, doing, and assessing; formal assessment; and summarizing assessment evidence. Each stage leads into the next as teachers and students use evidence from student performance to make inferences, exchange feedback on their inferences, and then use the inferences to adjust their strategies.

Stage 1 is about *pre-assessment*, in which the teacher makes use of Zimmerman's (2002) forethought in preparation for assessment development. This includes fine-tuning standards to fit the students' context through the identification of students' motivation, attitudes, misconceptions, and difficulties regarding the domain content.

In Stage 1, Chen and Bonner discuss the benefits of pre-assessment tasks for students—it may be an opportunity for students to practice setting goals and planning. It could serve as a baseline from which students may judge their task performances. Pre-assessment tasks help bring attention to the gaps in student knowledge, allowing for more efficient, focused instruction and practice according to the student's needs.

Throughout Stage 2—the *cycle of learning, doing and assessing*—the teacher interacts with the students as they perform tasks. The teacher provides feedback throughout the process of students completing multiple iterations of a task, shaping the task in ways that encourage students to engage in self-control, self-observation, and self-monitoring of their performance. Students can use strategies such as constructing charts, organizers, checklists, or recordings detailing their performance to practice making self-assessments.

Stage 3, *formal assessment*, serves as an opportunity for the student to demonstrate their understanding of the content. For classroom teachers, this involves the development of an assessment task relevant to academic standards. Students work their way through a more complex task on their own, often requiring them to use a combination of skills and SRL strategies practiced with the teacher during Stage 2.

Stage 4 involves the process of *summarizing assessment evidence.* Both teachers and students take time to reflect on performance through summarizing and evaluating. All of the evidence from the student's accomplishments is weighed and consolidated for judgment.

The Stage 4 is essential not only for the teacher in assigning a score or grade to the student's performance but also for the student as an opportunity to reflect on performance throughout the assessment and back on their pre-assessment task—promoting the exercise of self-regulation through the student's self-evaluation.

> "The CA:SRL, a robust framework with direct application to the classroom, offers a clear path through four stages to high-quality assessment practices."

The CA:SRL, a robust framework with direct application to the classroom, offers a clear path through four stages to high-quality assessment practices. Teachers can structure assessment tasks by focusing on the explicit implementation of self-regulated learning principles, and by guiding their students to grow as self-regulated learners.

The merger of CA practices and SRL principles is a straightforward guide to the continuous development of more effective and productive assessment practices. I will certainly be taking the stages of CA:SRL into consideration during the development of new (and the redevelopment of existing) assessment tasks for the next semester.

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Reflections on A Framework for Classroom Assessment, Learning, and Self-Regulation

Yilin Wang (*Queens College & Graduate Center, The City University of New York*)

In the article *A Framework for Classroom Assessment, Learning, and Self-Regulation*, Peggy P. Chen and Sarah M. Bonner offered a new image of assessment for students' active learning and attainment. They proposed a contextual, dynamic, and interactive framework that connects classroom assessment (CA) and self-regulated learning (SRL). They identified four fundamental stages in the CA:SRL model: 1) pre-assessment, 2) the cycle of learning, doing, and assessing 3) formal assessment and 4) summarizing assessment evidence.

Chen and Bonner conveyed how CA:SRL builds students' SRL skills that address the self-efficacy, motivation, self-monitoring, and self-control aspects of Zimmerman's SRL theory. This framework demonstrates how CA should be incorporated into teaching and how SRL should be developed and supported in the classroom to motivate students to improve their learning.

I agree with Chen and Bonner's suggestions that teachers should assess students' prior content-domain knowledge as well as their motivation and attitudes to pace classroom instruction. Multidirectional interaction between teachers, students, and peers via informal assessment activities is expected, which is essential for examining the effectiveness of instruction. In this regard, students carry out their performance with scaffold or support from experienced others, such as teachers.

After a period of instruction and learning with the teacher's scaffolding, students should be able to engage in formal assessment limited any external support. It is crucial to emphasize that the components of self-regulation, such as self-reflection and self-evaluation, are helpful for both teachers and students to judge and adapt their teaching and learning.

As campuses closed in response to the pandemic, most of my colleagues and I faced an abrupt and drastic change in the structure of teaching and learning.

As a student teacher, I have been planning to be versatile in developing a virtual classroom and thinking about how SRL can be helpful for students learning in an online setting. Compared to traditional face-to-face instruction, distance learning involves a significantly higher separation between the teacher and the students.

Due to these unexpected campus changes, I thought the following strategies that connect with CA:SRL will help students adapt to the new educational environment and become an effective self-regulated learner. During Stage 1, pre-assessment, I will utilize methods such as brainstorming, KWL Charts or surveys to uncover students' prior knowledge and present new information at an appropriate developmental and cognitive level for the students based on their prior knowledge.

During Stage 2, the cycle of learning, doing, and assessing, I will provide and guide students with clearly articulated learning objectives to promote learning by connecting interests, objectives, and students' goals. The teacher and the students will then collaborate via online forum in response to the fundamentally important knowledge.

During Stage 3, formal assessment, I expect to focus on utilizing instructional methods such as scaffolding and teacher-directed activities and practices. For Stage 4, summarizing assessment evidence, students will be required to reveal the most important concepts they learned, the strategies were either helpful or hindered learning and the problems that still exist. I believe that teachers can use their in-depth knowledge, long-term relationships, and frequent interaction to facilitate students' learning.

Yilin Wang is currently pursuing her doctorate in Educational Psychology at The Graduate Center, CUNY, and she is also a faculty member of educational psychology at Queens College. Her research focuses on children learning and cognitive development, second language learning, and test validity.

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A Book Review:
Systematic Classroom Assessment: An Approach for Learning and Self-Regulation

Divya Varier (*George Mason University*)

In the book, *Systematic Classroom Assessment: An Approach for Learning and Self-Regulation* (Routledge, 2019), Sarah M. Bonner and Peggy P. Chen present a framework, Classroom Assessment and Self-Regulated Learning (CA:SRL), for teachers to support student learning and self-regulation through classroom assessment. The model weaves together best practices from cognitive and motivational research as well as educational assessment.

The book is comprised of twelve chapters divided into three sections where the authors introduce their novel framework, then delve into principles of assessment practice, and conclude with case studies illustrating the concepts presented in the first two sections. The book serves as an excellent resource for teachers who want to understand the immense opportunities in classroom assessment that can support students' learning and metacognition.

Part I introduces the CA:SRL framework, which aligns with the phases of self-regulated learning theory (Zimmerman, 2002). In Chapter 1, the authors explain the four phases of CA:SRL and strategies for teachers to support students' self-regulated learning. Then, in chapters two, three, four, and five, the authors present each phase in detail.

Chapter 2 covers the pre-assessment phase, which includes actions teachers can take to activate students' prior knowledge and gauge students' pre-requisite skills for the learning task at hand. This phase aligns with the self-regulatory processes that occur in the forethought phase. The chapter has several examples, techniques, and tools for the readers who want to support effective goal setting, planning, and forethought.

Chapter 3 covers the assessment for learning or the assessment opportunities that occur during instruction. Commonly understood as assessment for learning, this phase aligns with the self-regulatory processes in performance. The chapter effectively connects meaningful assessment activities embedded in the teaching-learning process.

Chapter 4 describes the formal assessment phase, where teachers formally assess students' learning. This phase is a continuation of the performance phase, but it capitalizes on formal assessment opportunities that already exist ubiquitously in learning contexts to foster students' motivational and self-regulatory processes. Finally,

Chapter 5 describes a reflection phase where teachers summarize the performance of student learning, which aligns with the self-reflection phase of self-regulated learning. This is an integral part of a teacher's work where they engage in grading and reporting of students' performance. The chapter presents procedural information about best grading practices while maintaining their focus on student-centered reflective practice and emphasizing a "shared process" that promotes student self-reflection.

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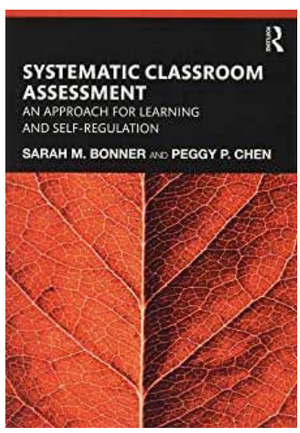
In addition to presenting a framework that reflects contemporary and emerging ideas about assessment practice, it serves as a high-quality textbook for vital educational assessment and measurement concepts. Persistent difficulty in the educational assessment arena has been translating complex and sophisticated principles that guide the assessment development process for teachers in classroom contexts.

In Part II, the authors expertly address technical quality and technology in large-scale and classroom assessments. In Chapters six, seven, and eight, Bonner and Chen explain reliability, validity, and



fairness for teachers using a practical approach without undermining the complex nature of the concepts. For example, the authors tackle random error and its sources that influence the dependability of assessment scores for decision making. They do this by presenting classroom-based scenarios and drawing attention to the responsible use of data throughout the chapters.

Take this snippet from Chapter 6, for instance:

> A student's ability to express their ideas in essay format is not likely to change much from Tuesday to Wednesday of the same week...mood energy and personal experiences influence every individual's ability to demonstrate their skills from day to day. We consider them to be sources of random error because we have no way to predict when or how much these kinds of things affect individual performance. (p. 98)

They proceed to discuss ways to evaluate error from item *x* task characteristics before presenting content on gathering reliability evidence. In the chapter on Validity, they conclude with a case study illustrating validation in classroom assessment. In the chapter on Fairness, they bring to light critical issues in assessment processes that are potential sources of bias and discrimination.

Chapter 9 is a fantastic description of the classroom assessment technology, which is pivotal to teachers' practice. New teachers are increasingly entering a workplace with one-to-one or ubiquitous access to technology. Technology has changed every aspect of teachers' assessment practice in the form of large assessment systems to teacher-specific educational applications. Consistent with the rest of the book, Bonner and Chen address how each phase of the model can be enacted with plenty of examples that cover the breadth and depth of technology in the classroom.

Part III of the book provides vignettes of case studies to help teachers understand how the CA:SRL framework would play out. There are three case studies each set in English Language Arts, Music, and Mathematics classroom contexts. The readers' experience CA:SRL through the lens of Mrs. L, Mr., Ms., and Mr. M. For preservice teachers, these case studies shed light into the real world of classroom assessment in action.

The biggest strength of the CA:SRL framework is perhaps the central role of students in classroom assessment. Throughout the chapters, Bonner and Chen embed ways to involve students in ways that support autonomy, opportunities for self-assessment, and update of feedback. The pre-assessment examples, in particular, illustrate ways to assess students' pre-requisite knowledge and their disposition and motivations.

Another aspect of the book that I appreciated was the framework's emphasis on feedback. The literature has documented that in the cycle of assessment data use (collecting data- analysing data- interpreting data – taking instructional action), teachers struggle with making instructional decisions after interpreting assessment results (Schneider & Andrade, 2013).

This book offers feedback as an essential way to do that – not only for effective assessment use but also to attend to motivational processes that impact learning. At the same time, Bonner and Chen address valuable technical knowledge about developing and using assessments in an approachable way with plentiful examples.

As much as this book is for teachers, it also presents many novel ideas in the CA:SRL model that are rich for empirical study. The framework represents the latest notions about the assessment's role in teaching and learning (Brookhart, 2013; Shepard & Penuel, 2018; Pastore & Andrade, 2019). For researchers, this book presents assessment as a novel context for exploring many educational psychology variables extensively studied elsewhere in teaching-learning.

For researchers in the assessment and measurement field, the book offers some foundational work on elevating the role of theories of learning and motivation in investigating the role of assessment in improving learning. Classroom assessment is a fertile area for investigating how we can support students' learning and motivation, and Bonner and Chen have offered researchers a wealth of ideas that can help us think about how we can better support learning and motivation.

References are listed on Page 21.

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A Response to Review of Chen and Bonner 2019 Article, *A Framework for Classroom Assessment, Learning, and Self-Regulation*

Peggy P. Chen & Sarah M. Bonner (*Hunter College, CUNY*)

We thank the SSRL-SIG *Times Magazine* guest editor, Nevair Oranjian, and all the contributors for succeeding to deliver this issue during the COVID19 pandemic. We are most grateful for the many scholars and educators who provided invaluable feedback on our article depicting the CA:SRL framework (Chen & Bonner, 2019). We also thank Divya Varier for her review of our book, *Systematic Classroom Assessment: An Approach for Learning and Self-Regulation* (Routledge, 2019), which is based on the Classroom Assessment and Self-Regulated Learning (CA:SRL) framework.

We developed the framework when we noticed—as did others in CA and SRL fields (Clark, 2012; Panadero et al., 2018; Wiliam, 2007)—that parallel and similar processes exist between CA practices and SRL. We aimed to develop a theory-driven classroom assessment framework and focus on the interactions between students and their teachers. Therefore, we depict how assessment and learning processes can dynamically interact, for both teachers and students in classrooms, and how such interactions encompass the full breadth of CA's purposes, from planning through the summation of evidence.

Since we used the framework to introduce teacher candidates to classroom assessment at our institution and received feedback from them, we are aware of many strengths and the soundness of our framework, as well as the need to develop it further and modify our textbook.

The reviews published in this issue were positive, encouraging, and optimistic about the broader impact of the framework we presented. However, a few questions and suggestions from the reviews have prompted us to re-examine our articulations of the framework.

One set of reviewers noted the need for empirical evidence on CA:SRL to ensure its validity. We agree that empirical studies are needed to support the framework and have begun to examine Stage 2 of CA:SRL because we propose that assessment for learning (A*f*L) should occur during that stage. As a result, we have expanded Stage 2 of CA:SRL (Chen & Bonner, in press), and we have analyzed, with a sample of students in computer science classes (Bonner et al., 2019), the complex processes that take place during this stage. To provide needed evidence, we have also begun to expand certain aspects of the framework and conduct empirical studies based on CA:SRL.

We agree with reviewers that we should clarify and be more explicit regarding self- and peer- feedback, as stated on page 6 of this issue, "…which describes the appropriate scaffolds teachers should introduce to improve self/peer assessment practices. However, the description and conditions under which peer feedback would be most fruitful need additional clarification."

Because of space constraints, we could not address the corpus of research on feedback. In our book, however, we address self- and peer-feedback and include specific examples for different content areas, such as English Language Arts, Math, and Music. We also describe how students and educators can use the information from self- and peer-feedback to further their instructional decisions and practices.

Another set of reviewers shared their model for social-emotional learning (SEL) and suggested that we consider incorporating SEL aspects into our framework. To enhance our current construct, we will consider incorporating aspects of social-emotional learning into CA:SRL to provide a comprehensive and coherent framework for PK-12 students and educators.

One reviewer questioned a statement that we made in our article: "… assessment activities that result in grades and marks are interpreted and reflected upon by students using the same mental processes that self-regulate learning from performance on tasks of lesser consequence" (Chen & Bonner, 2019, p. 17). This reviewer stated that our claim is inconsistent with specific research on academic motivation (p. 15 of this issue).

We appreciate the reviewer's observation of this statement, which we made in the discussion section of our paper. We were trying to state that cognitive processes of self-reflection and evaluation occur after students perform any assessment task and are akin to some SRL processes that occur after the performance phase and during Zimmerman's self-reflection phase.

Self-reflective processes are likely to occur after any type of assessment—summative or formative. In other words, self-reflection *processes* are the same, whether tasks are of high or low consequence. However, the *kinds* of attributions and self-evaluations that students make about their performance may vary according to their perception of the assessment purpose and consequences.

Because the assessment process occurs in a complex social and cultural context, student self-reflection on assessment is also likely influenced by perceptions of their teachers, school and classroom contexts, and many other factors. Our articulation of such essential points should be made more carefully and clearly.

We especially thank Dr. Divya Varier for her reviews of our textbook. She provided overviews of the text by capturing the essence of each chapter and certain nuances. Her enthusiasm about the chapter on technology in classroom assessment mirrored our pride; writing this book pushed us beyond our comfort zone.

We greatly appreciate this opportunity to reflect on the valuable input and thoughtful feedback from reviewers and express our gratitude to the editors who asked us to contribute to this issue. We look forward to continuing this conversation and further developing and improving research in CA and SRL.

References are listed on Page 21.

Peggy P. Chen

Sarah. M. Bonner

Peggy P. Chen and Sarah M. Bonner are associate professors in the School of Education at Hunter College, CUNY.

Abstract: *Journal: Assessment in Education: Principles, Policy & Practice*

We present a conceptual framework that leverages synergies between classroom assessment (CA) practices and self-regulated learning (SRL) theory to support academic growth and instruction. We articulate the processes shared by CA and SRL, drawing on a model of SRL with three phases: forethought, performance, and self-reflection. We blend this SRL model with CA to create the CA:SRL framework in four stages: (1) pre-assessment, (2) the cycle of learning, doing, and assessing, (3) formal assessment, and (4) summarizing assessment evidence. We elucidate how SRL processes are involved at each stage and can be drawn on to support learning development and teacher understanding and co-regulation of learning. This framework is important in that it depicts how assessment and learning processes interact dynamically for both teachers and students in classrooms, and demonstrates that such interactions encompass the full breadth of purposes in CA, from planning through summation of evidence.#

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