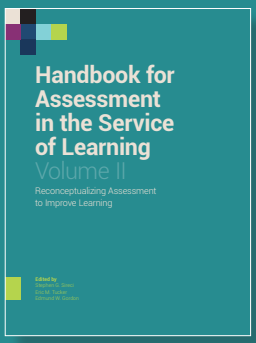
Toward a Culturally Self-Regulated Dynamic Pedagogy Assessment System

Héfer Bembenutty

UMassAmherst
University Libraries



Series Editors:
Edmund W. Gordon, Stephen G. Sireci, Eleanor Armour-Thomas, Eva L. Baker, Howard T. Everson, and Eric M. Tucker

ISBN: 978-1-945764-33-2

Suggested Citation:
Bembenutty, H. (2025). Toward a culturally self-regulated dynamic pedagogy assessment system. In S. G. Sireci, E. M. Tucker, & E. W. Gordon (Eds.), *Handbook for assessment in the service of learning, Volume II: Reconceptualizing assessment to improve learning.* University of Massachusetts Amherst Libraries.

Toward a Culturally Self-Regulated Dynamic Pedagogy Assessment System

Héfer Bembenutty

Abstract

This chapter introduces the Culturally Self-Regulated Dynamic Pedagogy Assessment System (CSDPAS), a comprehensive framework designed to integrate self-regulated learning (SRL) with culturally responsive pedagogy. Building upon Zimmerman's cyclical model of SRL and the Dynamic Pedagogy framework, the system emphasizes the interconnected roles of curriculum, instruction, and assessment to enhance academic outcomes for diverse learners. CSDPAS is grounded in the belief that embedding SRL strategies—goal setting, self-monitoring, and self-reflection—into culturally inclusive educational practices fosters student agency, equity, and academic success. The chapter outlines how teachers and students can engage in self-regulation across the phases of learning and teaching, supported by evidence-based practices that highlight the importance of self-efficacy, motivation, and culturally relevant assessments. Case studies demonstrate the model's effectiveness in improving student engagement, teacher satisfaction, and learning outcomes, particularly in diverse classroom environments. The author advocates for future research to expand this model and emphasizes the need for dynamic, culturally attuned assessment systems that promote lifelong learning and equitable education.

Self-regulated learning is a process that can benefit both teachers and students alike. *Self-regulated learning* refers to the ability of individuals to control their learning process by managing their thoughts, emotions, behaviors, and actions to pursue valuable academic outcomes successfully (Zimmerman, 2013). By purposefully pursuing academic goals, students acquire skills, improve their academic outcomes, and achieve better results. Conversely, teachers can use self-regulation in all aspects of their teaching profession (Bembenutty et al., 2015; DiBenedetto, 2018). It can also help parents and educators better understand and support their children's or students' learning progress. Self-regulated learning is a reliable approach that can enhance teaching, learning, and academic outcomes for everyone involved (Greene et al., 2024).

While there is extensive evidence that self-regulated learning is associated with valuable teaching, learning, and academic outcomes, much still needs to be discovered about how assessment can facilitate self-regulated learning. There is a need for a better understanding of how self-regulated learning can promote assessment equity, accountability, and adaptation in diverse classrooms with students and teachers from diverse backgrounds. It is also vital to understand how self-regulated learning can facilitate the transfer of knowledge and skills and the development of future goals and objectives. Despite its effectiveness, there is a lack of a comprehensive and dynamic pedagogical model that integrates curriculum, instruction, and assessment within the self-regulated learning framework (Bondie & Zusho, 2018; White & DiBenedetto, 2015). Developing such a model can produce positive academic outcomes for students' self-regulated learning and enhance teachers' ability to adopt effective curriculum, instruction, and assessment. This model can be particularly beneficial for learners and educators from diverse backgrounds who aspire to learn, teach, and assess in inclusive and equitable classroom environments, fostering a sense of belongingness and inclusivity (Armour-Thomas & Gordon, 2013, 2025).

In this chapter, I have five primary objectives. First, I present an overview of the self-regulated learning theory and five major hallmarks for learning-centered curriculum, instruction, and assessment. Second, I discuss how self-regulated learning is a theoretical foundation and guiding framework for understanding curriculum, instruction, and assessment processes. Third, I demonstrate how self-regulated learning is aligned with and supports the Dynamic Pedagogy framework (Armour-Thomas, 2017; Armour-Thomas & Gordon, 2013), which

integrates assessment with curriculum and instruction centered on learning while embedding equity, assessment, and cultural practice; and introduce the Culturally Self-Regulated Dynamic Pedagogy Assessment System. I describe how the three phases of self-regulated learning are theoretically construed and embedded in the transformational outcomes of rigor, love, freedom, and joy at each stage of the curriculum, instruction, and assessment processes. Fourth, I review evidence-based research to underscore the importance of self-regulated learning in promoting a diverse, equitable, and inclusive educational assessment system, drawing from the experiences of both preservice and in-service teachers. Finally, I recommend how self-regulated learning can enable equitable curriculum, instruction, and assessment practices in the 7–12 classroom. I conclude the chapter by emphasizing the imperative need for further research and practices promoting a culturally self-regulated educational assessment system, where feedback to learners and educators is essential to the formative assessment process. This comprehensive approach aims to enhance understanding and implementation of self-regulated learning within educational settings, contributing to developing a more inclusive and effective learning environment for all students.

Self-Regulated Learning

Self-regulated learning processes predict effective teaching and learning (Zimmerman, 2013). Self-regulated learning can transform how we approach curriculum, instruction, and assessment and predict effective teaching and learning (Bembenutty et al., 2013; Butler et al., 2017; Kitsantas et al., 2024). Self-regulated learning involves the acquisition of learning habits, study skills, learning strategies, and metacognitive skills associated with positive academic outcomes. Skilled self-regulated learners set academic goals, assess their motivation and task value, and evaluate and monitor their performance and outcomes. Self-regulated learning can help learners develop the necessary skills and strategies to achieve their academic goals more effectively.

Learners' Self-Regulated Learning

The first phase of self-regulated learning is forethought. During the forethought phase, learners set goals, plan strategies, and activate prior knowledge. They also assess their motivational beliefs, such as self-efficacy, outcome expectation, task value, and interest. For instance, goal setting involves identifying target outcomes linked to standards for assessing performance (White & DiBenedetto, 2018). Setting

specific, measurable goals focusing on short- and long-term outcomes is vital for successful self-regulated learning. It is also essential to have an acceptable level of self-efficacy beliefs to achieve these goals. Self-efficacy is a motivational component of self-regulated learning that positively predicts performance.

Self-efficacy refers to individual beliefs about their capability to perform designated tasks (Bandura, 1997). Self-efficacy effectively predicts students' motivation and learning, interacts with self-regulated learning processes, determines activity choices, effort, persistence, and emotional reactions, and mediates academic achievement (Zimmerman, 2000). Like self-regulated learning, self-efficacy is assessed through performance capabilities rather than personal qualities, such as physical or psychological characteristics (Zimmerman, 2000). Understanding the importance of self-regulated learning and self-efficacy can help learners achieve their academic goals more effectively.

In the performance phase, learners monitor their progress, apply strategies, and seek help. This phase is where self-control becomes crucial, and learners must activate attention focusing, self-administration of instruction, and enacting task analysis. Self-observation is also a key aspect of this phase, and learners can benefit from self-recording and self-monitoring tasks or thoughts. Equally important is the role of help-seeking from knowledgeable sources, such as teachers, advanced peers, or multimedia outlets. When learners encounter academic challenges they believe are difficult, seeking help from the teacher as a self-regulated strategy can be highly beneficial. This instrumental help-seeking approach is a key factor in promoting effective learning. In contrast, executive help-seeking, which involves learning avoidance or asking for solutions to tasks without fully understanding them, is less effective in promoting learning (Karabenick & Gonida, 2018).

In the self-reflection phase, learners assess their outcomes, recognize their strengths and challenges, and adapt their goals and strategies for future learning. This phase is where self-judgment of tasks occurs, involving self-evaluation and causal attribution. It also includes an assessment of self-satisfaction and adaptation to new situations. Reflecting on the cause of outcomes is crucial in this phase, as students who attribute positive results to appropriate strategic usage tend to remain focused on identifying strategies that will produce valuable outcomes. On the other hand, students who attribute positive outcomes to luck

may not put in the necessary effort in the future. Self-regulated learning can benefit learners as it enables them to plan, monitor, and evaluate their learning processes, goals, and strategies (Schunk & Greene, 2018; Zimmerman, 2013).

As Figure 1 displays, Zimmerman's cyclical model of self-regulated learning consists of three phases that influence each other: forethought, performance, and self-reflection.

- *Forethought Phase*: In this phase, learners establish specific, realistic, feasible, challenging, and attainable goals and strategies. They also identify their outcome expectancy, self-efficacy, and interest levels in reaching those goals and strategies.
- *Performance Phase*: This phase is crucial in the development of self-control and self-observation. Learners create positive images and outcomes of the task, stay task-focused, provide self-instruction, and monitor tasks strategically. Additionally, they engage in self-recording and self-experimentation.
- *Self-Reflection Phase*: After completing the task, learners enter the self-reflection phase. Here, they assess the results of their actions, gauge their satisfaction, identify the causes behind the outcomes, and modify their goals and strategies as needed. This phase acts as a feedback loop, enabling learners to improve and prepare themselves for future cycles of tasks.

Self-regulated learning has immense potential to provide a new perspective and vision for curriculum, instruction, and assessment as a dynamic pedagogical model that can address the challenges and opportunities of teachers and learners (Schunk & Greene, 2018). It is a valuable tool that can help teachers design, implement, and adjust their curriculum, instruction, and assessment practices to meet their students' diverse needs and preferences. Self-regulated learning is essential for successful assessment, as stated by Artzt and her associates, "Taking personal responsibility and control of one's learning is a hallmark of academic excellence. A critical factor in this type of learning that researchers define as self-regulated… is self-assessment" (Artzt et al., 2015, p. 8). As agentic individuals, teachers can be proactive and self-directed while pursuing valuable academic goals and engage in self-regulation and coregulation (Greene et al., 2024). The cyclical phases of self-regulated learning also apply to teachers, which means teachers can benefit from the same self-regulatory processes they instruct their students (Pape et al., 2013;

White, 2017; White & DiBenedetto, 2015). Kramarski and Kohen (2017) highlighted the dual self-regulation roles of teachers, emphasizing the need for suitable assessment methods to capture the dynamic, complex, and cyclical nature of self-regulation within the teaching and learning process.

Teachers' Self-Regulated Learning

Self-regulated learning can help teachers better understand their strengths and areas for improvement and adjust their teaching practices. It can be a powerful tool in enhancing teachers' and students' teaching and learning experiences. The forethought phase is crucial for teachers as they are proactive agents who generate goals, engage in strategic planning, activate intrinsic motivation and maintain self-efficacy for learning and teaching. Teacher self-efficacy significantly shapes their thoughts, actions, lesson plan preparation, curriculum development, instruction, and assessment (Hoy et al., 2009). Teachers with high self-efficacy beliefs are also more effective in class management, teaching strategies, rapport with students, and effective assessment (Woolfolk et al., 2006). This is particularly important in challenging classroom situations, such as low student motivation, classroom management, unsupportive parents, and complex administration. Teacher self-efficacy empowers them to put effort and persistence into valuable teaching tasks, directing their actions and plans. This human agency is crucial in helping teachers navigate demanding situations and succeed in their profession (Bandura, 2006; Hoy et al., 2009).

There are four primary sources of self-efficacy: mastery experiences, vicarious experiences, verbal persuasion, and physiological and emotional states. Mastery experiences are the most powerful source of self-efficacy, as they involve direct personal success or failure in each domain. When teachers overcome challenges or achieve goals, they enhance their competence and confidence. Conversely, when people fail or encounter difficulties, they may lower their self-efficacy unless they attribute the failure to external or controllable factors. Vicarious experiences are the second source of self-efficacy, as they involve observing others perform a task or cope with a situation. When people see someone like themselves succeed or fail, they may infer that they can or cannot do the same. Verbal or social persuasion is the third source of self-efficacy, as it involves receiving encouragement or discouragement from others. When people are praised, supported, or motivated by someone they trust or respect, they may increase their self-efficacy.

Conversely, when people are criticized, doubted, or discouraged by others, they may decrease their self-efficacy. Verbal persuasion can help people overcome self-doubt and focus on their strengths and abilities. Physiological arousal or emotional states are the fourth source of self-efficacy, as they involve interpreting one's bodily and affective reactions to a task or situation. When people experience positive emotions, such as excitement, joy, or pride, they can significantly boost their self-efficacy. This understanding can instill a sense of optimism and confidence in teachers, knowing that their emotional state can significantly influence their self-efficacy (Bandura, 1997).

The literature supports the importance of teacher self-efficacy for a successful and healthy teaching career. Täschner et al. (2024) conducted a systematic review and meta-analysis of intervention studies promoting teacher self-efficacy. They analyzed over 115 studies, which included more than 11,284 pre-service and in-service teachers. The findings revealed interventions had a significant positive effect on promoting teachers' self-efficacy. Additionally, they found that interventions targeting mastery experiences were the most successful for pre-service teachers when examining the four sources of self-efficacy identified by Bandura (1997).

In the performance phase of learning, teachers can control their motivation and emotions, use effective learning strategies, seek help when required, and activate their metacognitive skills to ensure successful task completion and positive outcomes. While metacognition and self-regulation are used often interchangeably, they emphasize distinct aspects of learning. Metacognition involves thinking about cognition and cognitive structures, while self-regulated learners focus on regulating the behavior, cognition, feelings, and actions related to the learning process and outcomes. However, there is a debate about whether self-regulation is a subordinate component of metacognition. Regarding classroom assessment, Armour-Thomas adopted the notion that self-regulation is a subordinate component of metacognition. Regardless of this debate, it is crucial to understand that effective self-regulated teachers skillfully use metacognitive skills by planning, controlling, and monitoring their cognitive processes, leading to better learning outcomes. Therefore, it is essential to prioritize the development of self-regulated learning skills in teachers, as this will help them become more effective in their roles. By mastering the art of self-regulation, teachers can ensure positive classroom experiences for their students

and better learning outcomes. In the self-reflection phase, teachers assess their satisfaction with task completion and self-evaluate outcomes, examine their attributions and self-reaction to outcomes, and adapt their performance. This emphasis on self-reflection can make teachers feel more introspective and self-aware, enhancing their professional growth and effectiveness.

Integration of the Dynamic Pedagogy and Self-Regulated Learning

Self-regulated learning and the Dynamic Pedagogy framework aim to improve students' learning and teachers' ability to design and implement curriculum, instruction, and assessment. In this chapter, the focus is on breaking down silos (Matthews & Wigfield, 2024) by integrating the Dynamic Pedagogy and self-regulated learning frameworks into the *Culturally Self-Regulated Dynamic Pedagogy Assessment System*. This integrated approach emphasizes curriculum, instruction, and assessment while considering the cultural endeavors of both teachers and students. The literature supporting both models is vast and highlights the potential of each approach. Self-regulated learning is an essential component of the dynamic system, as Kaplan, Neuber, and Garner (2017) described. It encompasses content and strategic knowledge and considers the influence of culture, social context, subject domain, and the individual's implicit dispositions. Their dynamic pedagogy emphasizes the interconnectedness of several factors in shaping an individual's learning process and underscores the importance of self-regulation in achieving academic success.

The Dynamic Pedagogy framework has made significant strides in providing empirical evidence and conceptual integration (Armour-Thomas, 2008, 2017; Armour-Thomas & Gordon, 2013). However, self-regulated learning has also progressed in recent years, particularly emphasizing instruction, assessment, and students' learning (Cleary & Russo, 2024; Schunk & Greene, 2018). Although curriculum and assessment have only sometimes been at the forefront of the self-regulated learning approach, this model is consistent with and can support the Dynamic Pedagogy framework. Both models integrate assessment with curriculum and instruction centered on learning, emphasizing equity, assessment, and cultural practice. The self-regulated learning processes and the dynamic pedagogy framework are interconnected and can work concomitantly to enhance teachers' and students' teaching and learning experiences.

The Dynamic Pedagogy framework developed by Armour-Thomas and Gordon (Armour-Thomas & Gordon, 2013, 2025) is a powerful approach to teaching that emphasizes the integration of curriculum, instruction, and assessment to enhance learning outcomes (See Figure 2). In this approach, the key to dynamic pedagogy lies in the interconnection between these three elements, which includes adaptation and response to learners' behavior. In this context, pedagogy refers to the process and outcomes of student learning resulting from effective curriculum, instruction, and assessment. They distinguished pedagogy from instruction. Instruction refers to specific approaches teachers use to promote learning, while pedagogy is an umbrella term encompassing all three elements and how they work together to promote learning.

As a rationale for learning-centered assessment within the Dynamic Pedagogy framework, Armour-Thomas and Gordon argue that if the goal is to understand students' learning about determined standards, then assessment should not function separately from curriculum, as they both play a crucial role in understanding students' knowledge about determined standards and principles. They also posited that assessment could serve as a valuable feedback loop for instruction, allowing teachers to understand their strengths and areas for improvement, which could lead to more effective teaching practices and improved student learning outcomes.

The Venn diagram representation of the Dynamic Pedagogy model developed by Armour-Thomas and Gordon (2013) illustrates the interconnected relationships between curriculum, instruction, assessment, and learning, with the latter being the ultimate focus (See Figure 2). The nine dimensions of learning outcomes centered on the learners are fascinating, as they emphasize the importance of prior knowledge, social context, and metacognitive competence in the learning process. The model recognizes all children's potential to learn and the importance of meaningful learning that involves transferring knowledge to other contexts.

The Dynamic Pedagogy model is a valuable framework for teachers in designing effective curriculum, instruction, and assessment practices that promote student learning outcomes. The nine dimensions are consistent with the perception of learning within the self-regulated learning approach. Learning is construed as a function of the interrelation between the individual, the environment, and the behavior produced by the individual and the context (Bandura, 1997). However,

learning is not determined by external stimuli of reinforcement or punishment, nor by intrapsychic thoughts or experience. Learning is a function of the individuals' self-beliefs, agentic capabilities, forethought, and execution of actions. It also involves the capacity to plan, monitor, and control thoughts and actions, as well as self-reaction and self-reflection. From the self-regulated learning cyclical process, learning comprises the ability to set goals, plan, plan actions, monitor progress while reaching objectives, and reflect on outcomes.

The curriculum Dynamic Pedagogy strand covers the ideas, rules, criteria, and resources teachers use to facilitate learning. It also encompasses the content knowledge domain and how knowledge is arranged, built, and communicated to learners (See Table 1). Effective curriculum is delivered at a suitable level, with a logical sequence and appealing features that appropriately draw students' attention and relate to them. The link between curriculum and assessment is based on the idea that the choice of curriculum tools should align well with the evaluation of the student's learning outcomes, and assessment should be limited to only the content of the curriculum taught to the students. Self-regulated learning is embedded within the curriculum dimension of Dynamic Pedagogy's Venn diagram (See Figure 2). At the macro level, the curriculum is represented by Armour-Thomas and Gordon in a large shape. At the micro level, self-regulated learning is displayed by three small cycles within the large curriculum shape, representing the three cyclical phases: forethought, performance, and self-reflection. The curriculum design and implementation should be guided by the principles of cultural self-regulated pedagogy, which aims to foster self-regulated learning among diverse learners.

As discussed earlier, the culturally self-regulated pedagogy involves three cyclical phases: forethought, performance, and self-reflection. In the forethought phase, the curriculum should provide clear learning goals, expectations, strategies, and resources for planning and self-motivation. In the performance phase, the curriculum should offer a variety of media and formats to deliver the content and opportunities for students to seek feedback and monitor their progress. In the self-reflection phase, the curriculum should include tools and activities that help students evaluate their learning outcomes, reflect on their attributions and adaptability, and assess their self-satisfaction and self-efficacy.

During self-reflection, the curriculum should encourage students to set new goals, adjust their strategies, and celebrate their achievements. By following this

pedagogical approach, the curriculum can address the needs of all learners, especially those from minoritized and diverse backgrounds. The curriculum can also promote co-regulation between teachers and students as they share their thoughts, emotions, and actions related to the learning tasks (Greene et al., 2024; Hadwin et al., 2017). The cultural self-regulated pedagogy supports a proactive curriculum fostering self-fulfilling academic self-regulation cycles (White & Bembenutty, 2014), which can lead to effective and meaningful learning within a diverse curriculum (Artzt et al., 2015; White & Bembenutty, 2014).

The instructional Dynamic Pedagogy strand consists of strategies helpful to facilitate learning, including guided practice, supervised independent practice, modeling, scaffolding, and peer learning. This strand is related to assessment by revealing strengths and limitations in the assessment process. Given the assessment feedback, teachers can implement new instructional approaches that could result in effective learning. Self-regulated learning is embedded within the instruction dimension of Dynamic Pedagogy. Instruction is depicted in an oversized shape, and three small cycles within the large instruction shape display the self-regulated learning processes.

In the forethought phase, teachers can create opportunities for students to self-assess their self-efficacy beliefs, interest, and task value. Teachers can model ways to set measurable, realistic, and manageable goals and assist students in identifying their learning objectives and strategies. In the performance phase, teachers can help students self-monitor their progress by providing self-monitoring forms or logs and inviting them to seek help without concerns about being perceived as highly dependent. Teachers can invite students to assess their self-efficacy again to see whether it has fluctuated as they remain goal oriented.

In the self-reflection phase, teachers can ask students to engage in self-assessment or practice peer assessment and self-evaluation and help them adopt appropriate attributions for academic success or failure. It is essential to have a culturally self-regulated pedagogy in the classroom. Both teachers and students can be proactive, agentic, intentional, and self-directed, willing to engage in socially shared regulation and coregulation while embracing equity and diversity. Effective classroom instruction depends on orchestrating the needs of both students and teachers. The instruction is shaped by the teacher's agency, self-efficacy beliefs, and self-reflection on performance. Similarly, students' learning is influenced by

their agency, thoughts, self-efficacy beliefs, self-regulatory competencies, and the classroom context.

The assessment strand of Dynamic Pedagogy, with its two components: online probes and metacognitive probes, plays a pivotal role in promoting student learning and understanding. The *online probe* component helps teachers assess students' prior knowledge, skills, and readiness for new learning, aiding in identifying misconceptions and ensuring students have acquired the necessary knowledge and skills. In this context, the term "online" does not pertain to its conventional association with technology or digital platforms. Instead, it refers explicitly to real-time, interactive assessments of students' understanding during the learning process. These assessments, often conducted through questioning, involve students responding to open-ended tasks in a live, immediate manner. This approach aligns with the concept of "learning probes" as described by Slavin (2018), where educators gauge comprehension and engagement dynamically within the instructional environment.

While online probes can leverage technological tools such as computers and social media platforms (Golmohammadi, 2022), their core purpose remains rooted in fostering active participation and deeper cognitive engagement during the learning experience. The *metacognitive probe* component helps students become aware of effective learning strategies and how they can be applied to enhance their learning. Jenkins and Shoopman (2019) examined college students' misconceptions when molecular orbital diagrams are commonly taught and used for describing chemical bonding. Written probes were used to identify misconceptions, and it was found that many struggled to use and interpret the diagrams. They observed that metacognitive probes, like written probes, help calibrate students' comprehension. The assessment strand is interconnected with the curriculum strand, ensuring that the assessment is linked to the content covered in class.

Feedback plays a vital role in this strand, impacting the content and adaptation of the curriculum. Assessment is a critical component of fostering self-regulated learning and culturally self-regulated pedagogy. Self-regulated learning is ingrained within the assessment dimension of Dynamic Pedagogy, which operates at a macro level, as shown in the Venn diagram (See Figure 2), with a large shape. However, self-regulated learning operates at the micro level (represented by three small cycles within the large assessment shape) through three cyclical phases:

forethought, performance, and self-reflection. In the forethought phase, teachers ensure the assessment has undergone a rigorous task analysis, activated prior knowledge, and enabled students to use strategies within reasonable self-efficacy beliefs. In the performance phase, the assessment allows students to successfully apply strategies to complete the tasks. In the self-reflection phase, assessment serves as a tool for self-evaluation that provides feedback to learners about appropriate learning approaches and conveys expectations that learning is possible with acquired skills and effort. Regarding culturally self-regulated pedagogy, the assessment models of strategic learning offer opportunities for diverse ways of responding, are culturally fair, are sensitive to cultural diversity, and are administered fairly.

Within the assessment system, culturally self-regulated pedagogy (CSP) represents a comprehensive educational approach integrating self-regulated learning principles with cultural awareness, identity, and values. To illustrate, goal setting and self-efficacy are two culturalized processes and essential components of the CSP. To this point, Schunk and DiBenedetto have emphasized that "although goal setting may be universal, the types of goals set and how they are set are undoubtedly subject to cultural influences" (Bembenutty et al., 2023, p. 27). Similarly, they note, "Like goal setting, self-efficacy seems to represent a universal construct but is affected by cultural standards" (Bembenutty et al., 2023, p. 28). These observations highlight the need to integrate culturally self-regulated practices in diverse educational contexts to ensure that these processes align with students' cultural backgrounds. By doing so, educators can create more inclusive and effective learning environments that encompass all aspects of curriculum, instruction, and assessment.

Assessment is sensitive to bias and stereotypes. In his memoir, Edmund W. Gordon's (2014, Vol. I, p. 218) reflections underscore the impact of bias and stereotypes in assessments, particularly through the phenomenon of stereotype threat, as demonstrated by Steele and Aronson's study (Steele & Aronson, 2000). Their research revealed that minoritized college students' test performance could be influenced adversely by their awareness of societal perceptions labeling them as intellectually inferior. To Gordon, this critical finding highlights the need for equitable approaches in psycho-educational measurement. Gordon, drawing from such evidence, has been a strong advocate for more inclusive and fair assessment practices. His work has significantly informed and enriched the development of

the CSP, which aims to address systemic inequities in education within the self-regulated learning framework. The CSP emphasizes creating learning environments that respect and integrate diverse cultural experiences, fostering both equity and empowerment for all learners while focusing on promoting self-efficacy beliefs, enacting goals, agency, and self-reflection. Through his lifelong dedication, Gordon has contributed to advancing educational practices that prioritize fairness and cultural sensitivity, paving the way for more just and effective systems of evaluation and instruction. His efforts remain instrumental in shaping frameworks that challenge bias and promote inclusivity in education.

Unlike a mere adaptation of Culturally Responsive Teaching (CRT; Gay, 2018), or Culturally Relevant Pedagogy (Ladson-Billings, 2021), the CSP combines cognitive, metacognitive, and cultural strategies to create an inclusive learning environment supporting diverse students. CSP emphasizes empowering students to take ownership of their learning process by setting goals, monitoring progress, and refining strategies. It fosters essential skills such as time management, academic delay of gratification, critical thinking, and self-efficacy beliefs while embedding cultural relevance into the educational experience and providing a culturally valid and reliable curriculum and assessment. By incorporating students' cultural contexts and subjective experiences, CSP makes learning more meaningful and engaging. This framework values cultural diversity and equips learners with the ability to adapt their self-regulatory strategies to align with their unique cultural identities. The goal is to promote inclusivity and ensure that education is accessible and relevant for all students, enhancing their academic success, personal growth, and proactive self-regulation.

In contrast, Culturally Responsive Teaching (CRT) emphasizes integrating students' cultural identities into all aspects of education to enhance engagement and understanding. It seeks to make learning more relevant and effective for students from diverse backgrounds by valuing their cultural references. CRT employs teaching methods that respect and incorporate cultural diversity to boost student motivation and participation by making lessons relatable. This approach prioritizes equity and inclusion, addressing educational disparities by recognizing the significance of cultural diversity in the classroom. Teachers are encouraged to be aware of and responsive to students' cultural contexts, utilizing culturally relevant materials and examples within the curriculum. Collaboration with families and communities is also key to meeting cultural and academic needs. By fostering

an inclusive environment, CRT supports students in achieving academic success while affirming their cultural identities. This approach underscores the importance of creating a learning experience that values diversity and promotes meaningful connections between students' backgrounds and their educational journey.

Nevertheless, CSP and CRT both aim to create inclusive learning environments that honor students' cultural identities. However, their approaches differ in focus and implementation. CSP integrates SRL principles with cultural values, emphasizing the development of self-regulation skills in students while addressing their academic and cultural needs. Teachers in CSP act as facilitators, fostering proactive and agentic learning within a culturally relevant framework. In contrast, CRT emphasizes making education culturally relevant and equitable by incorporating cultural references into teaching strategies. While CRT focuses on creating a responsive environment, CSP goes further by proactively combining these principles with SRL to engage and motivate learners from diverse backgrounds actively. Both approaches aim to foster engagement, motivation, and academic success for culturally diverse learners. Educators can create a dynamic learning environment that respects cultural backgrounds while encouraging self-regulation and autonomy by integrating SRL with CRT principles. This dual approach ensures that students feel included and are empowered to take charge of their learning journey.

CSP and CRT both emphasize active student engagement. In CSP, students take ownership of their education by setting academic goals, monitoring progress, engaging in academic delay of gratification, assessing their level if self-efficacy beliefs, and adjusting strategies. They draw on their cultural knowledge to deepen understanding and adapt their learning approaches based on personal and cultural contexts, fostering self-motivation and agentic accountability. In contrast, CRT encourages students to actively contribute by sharing their cultural experiences, reflected in the curriculum and teaching methods. This approach enhances student engagement and motivation while promoting collaboration among peers and teachers to explore diverse cultural perspectives. CRT creates an inclusive learning environment that values and acknowledges students' cultural identities. Both frameworks aim to empower students by recognizing and leveraging their cultural backgrounds, fostering a sense of belonging, and enhancing learning outcomes through meaningful engagement.

Table 2 highlights the distinctions in *curriculum approaches* and roles between CSP and CRT. For CSP, the teacher's primary objective is to promote self-regulation skills and cultural awareness, while CRT emphasizes fostering cultural awareness and respect for diverse cultural backgrounds. From the students' perspective, CSP encourages goalsetting and planning with a focus on self-regulation, whereas CRT aims to ensure students see their cultural identities represented in the curriculum, fostering a sense of belonging and relevance. Table 3 provides a comparison of instructional approaches between CSP and CRT, illustrating how each framework approaches instruction differently, tailoring both teaching strategies and student engagement to align with their respective goals.

Table 4 displays differences in *assessment approaches* between CSP and CRT. In CSP, teachers emphasize formative feedback aimed at fostering students' self-regulation skills and encouraging them to refine their learning strategies to help students build content knowledge while promoting independent learning practices. In contrast, CRT focuses on providing culturally sensitive feedback that validates and acknowledges students' cultural identities, which is designed to support students' academic growth while affirming their cultural backgrounds, creating a more inclusive and supportive learning environment. For students, CSP assessments are centered on developing self-regulation and content mastery through iterative feedback. Meanwhile, CRT assessments prioritize recognizing and incorporating cultural identities into the learning process, ensuring that feedback aligns with students' cultural contexts to enhance their academic success. Both approaches aim to support student development, albeit through distinct lenses.

Research Evidence

Several studies and theoretical frames support integrating self-regulated learning within a dynamic pedagogy framework. Studies have shown self-regulated learning is associated with curriculum, instruction, and assessment. For instance, Bembenutty and Hayes (2018) conducted a study in an alternative learning center, which caters to middle and high school students assigned there for several reasons, such as suspensions or severe misconduct behaviors. These behaviors include drug use, fighting, sexual abuse, and delinquency, leading to a diverse student population with varying academic abilities. Some students were found to be reading at the third-grade level, highlighting the challenges faced by the educators in addressing the educational needs of such a heterogeneous group. The project's primary objective was to implement the culturally self-regulated dynamic

pedagogy assessment model aimed at introducing students to self-regulated learning through learners' self-assessment during instruction. This approach sought to empower students to take ownership of their learning process, thereby promoting a sense of accountability and autonomy.

Drawing from Zimmerman's self-regulated model, students actively engaged in a three-phase self-monitoring process during the lesson. In the forethought phase, which spanned the initial five minutes of the lesson, students delineated their objectives and outlined strategies for achievement. They gauged their self-efficacy and interest in the upcoming material. Throughout the lesson, in the performance phase, students continuously monitored their progress, evaluated their willingness to delay gratification by deferring immediate rewards, and assessed their self-efficacy levels. The culmination of the lesson involved the self-reflection phase, during which students appraised their satisfaction with their performance, made attributions for their outcomes, and devised plans for subsequent tasks or adjustments for unexpected outcomes. Concurrently, the teacher actively participated in these phase processes, serving as a model and providing scaffolding for students to co-regulate their performance. The teacher's ability to modify instruction based on student performance underscores the adaptive nature of this approach. Following in-class instruction, students were tasked with utilizing a homework log to self-monitor their completion of assignments. The homework log mirrored the three cyclical phases employed during in-class activities. Subsequently, students submitted their completed homework alongside the corresponding logs during the subsequent class session.

The results of Bembenutty and Hayes' (2018) study indicate the students demonstrated a prominent level of motivation and engagement with the self-monitoring form and homework log. Motivation and engagement were reflected in their interest, self-efficacy, willingness to delay gratification, ability to engage in self-assessment, and the teacher's positive performance assessment. The teacher reported a keen sense of satisfaction and motivation with the outcomes, highlighting the positive impact of integrating curriculum, instruction, and assessment on student academic achievement and teacher satisfaction. By incorporating self-regulated learning strategies into the instructional framework, the researchers aimed to foster a more inclusive and supportive learning environment conducive to the diverse needs of the student body. Thus, a significant outcome of this study was the ability of the self-monitoring form and the homework log to allow

students to express their goals and strategies based on their cultural background, self-identity, experience, and interests. This outcome underscores the importance of recognizing that curriculum, instruction, assessment, and self-regulated learning are all cultural enterprises that can favorably impact the teaching and learning processes, and incorporating students' cultures can positively impact the teaching and learning processes. These results emphasize the interconnected nature of curriculum, instruction, and assessment and their potential to support academic achievement and create a more culturally inclusive learning environment. It is evident that when these elements are effectively integrated, they can contribute to student success and teacher fulfillment. Students were able to return to their regular classrooms.

Bembenutty, White, and Velez (2015) illustrated how self-regulated learning produces positive educational outcomes when ingrained into curriculum, instruction, and assessment. Study participants were teacher candidates from minoritized backgrounds whose learning and teaching experience was transformed when their teacher educators introduced them to self-regulated learning. The teacher candidates experienced personal and academic challenges and, at some points, were at risk of academic failure. They did not know how to set goals, assess their self-efficacy beliefs, or identify effective learning strategies. Their help-seeking approaches were primarily avoidance or dependency and were ineffective in monitoring their learning and self-reflection. However, the teacher educator successfully integrated self-regulated learning into their curriculum, instruction, and assessments, positively impacting the teacher candidates. The teacher educators revised their traditional curriculum by ingraining into its self-regulated learning components, including self-efficacy and delay of gratification. For instance, the curriculum design added reading materials related to self-regulation. It required that the instruction and assessment involved be presented with language and rubrics reflecting strategic learning. The instruction was transformed in ways that reflected more like an academic. The educators modeled goal setting, motivation, and self-reflection during each instructional time and student teaching. The assessment process involved the triangulation of data sources, which included observation, questionnaires, self-reflections, and interviews for two years while considering the students' cultural background.

Bembenutty, White, and Velez's (2015) revealed a significant improvement in the students' self-regulation, as evidenced by various indicators such as heightened

teacher self-efficacy, a greater willingness to delay gratification, increased intrinsic motivation, and an increased sense of perceived responsibility. Through interviews, students expressed their enhanced preparedness for teaching and their positive outlook on their future careers in education. They also reported increased self-efficacy for learning and deliberate use of self-regulated learning strategies, further supported by faculty observations during their student teaching experiences. For instance, one of the students articulated,

> *I engage in time management. I have to make decisions about spending time with friends or getting my lesson plans done. My attitude in the classroom is positive. I push myself to be positive so the students can have a positive learning environment… I establish new goals for myself and my students. By sharing my goals with them it helps them to grow. I use post-test assessments to re-evaluate my whole lesson.* (Bembenutty et al., 2015, p. 65)

Bembenutty, White, and Velez's (2015) findings highlight the significant strides made by the students in terms of their self-regulation and preparedness for the teaching profession. They demonstrated a proactive approach to effectively managing their responsibilities, cultivating a positive learning environment, and establishing meaningful objectives for their development and that of their students. These findings not only signify the students' personal growth, but also underscore the potential impact of their future contributions to the field of education. The student's commitment to their growth and the cultivation of a supportive learning environment bodes well for their future success as educators, and their dedication serves as a testament to their readiness to influence the lives of their future students positively. By providing students with opportunities to set goals, assess their motivation, monitor their performance, and reflect on outcomes, they became more self-directed learners who could better manage their learning. Regular assessment and feedback also helped students identify their strengths and weaknesses and adjust their learning strategies.

In a recent study, Bembenutty (2023) assessed how integrating self-regulated learning and digital technologies can improve teaching practices in diverse postsecondary learning contexts. Teacher candidates were trained to recognize the value of self-regulated learning and technology for enhancing their proactivity, self-direction, and self-efficacy. The study aimed to foster teacher candidates' agency in pursuing their teaching career during their training programs and to promote a

culturally self-regulated pedagogy. In their educational psychology course, teacher candidates learned about self-regulatory processes and integrating digital technology into the curriculum. They learned how to become self-regulated learners and self-efficacious practitioners as they acquired knowledge and skills for teaching and fostering self-regulation among their future students. Teacher candidates developed a technology presentation in which they chose a technological tool to support instruction and learning. They explained how it could enhance self-regulation and address diverse learners' needs. They used various computer programs. One student who used Quizizz (https://quizizz.com/) for instructional purposes noted that it could help create class assignments, quizzes, pre-test reviews, and formative assessments (Bembenutty, 2023). Another who used Socrative (https://www.socrative.com/) observed that it could help assess prior knowledge, generate questions, monitor comprehension, and boost self-efficacy (Bembenutty, 2023). These examples show curriculum, instruction, assessment, and self-regulation integration.

Chen and Bonner (Bonner & Chen, 2019; Chen, 2023; Chen & Bonner 2020, 2023) developed a comprehensive framework integrating classroom assessment practices and self-regulated learning theory to facilitate academic growth and instruction. Following Zimmerman (2013), this framework consists of three main phases—forethought, performance, and self-reflection—and encompasses four stages of classroom assessment: pre-assessment, the cycle of learning, doing and assessing, formal assessment, and summarizing assessment evidence. The model emphasizes the activation of self-regulated learning at each stage, highlighting the dynamic interaction between assessment and self-regulated learning for both teachers and students, leading to effective classroom assessment.

During the forethought phase, students are encouraged to consider their prior experiences and individual differences while teachers gather information on students' prior attributes. This phase sets the stage for understanding the diverse needs of students and tailoring instruction accordingly. In the performance phase, students self-check while teachers monitor instructional checkpoints, creating an informal performance interactive assessment. Subsequently, during formal assessment, students continue to perform and self-check while teachers interpret and infer the results. This stage formally evaluates students' progress and understanding, informing future instructional decisions. Finally, in the summary of evidence and formal self-reflection phase, students are prompted to self-reflect and make

attributions while teachers make judgments and record outcomes. This phase encourages students to take ownership of their learning and allows teachers to assess the overall effectiveness of their instructional strategies. By incorporating self-regulated learning at each assessment stage, teachers can support students in developing essential skills such as goal setting, self-monitoring, and reflection.

Chen's (2023) study on the interactions between self-regulated learning and assessment for learning in a college-level computer science class sheds light on the crucial relationship between curriculum, instruction, assessment, and self-regulation. Her findings underscore the positive impact of integrating self-regulated learning and assessment for learning into the course, enhancing students' support for the interplay between these elements. By revising the curriculum, instruction, and assessment practices, Chen created a framework that promotes the co-regulation of learning between teachers and students throughout the assessment process. Furthermore, the study emphasizes the need for teachers to actively engage in the co-regulation of learning with their students. This engagement involves providing guidance, feedback, and support throughout the assessment process, empowering students to become self-regulated learners. Educators can create a more inclusive and supportive classroom environment that caters to diverse learning needs by fostering a collaborative approach to learning and assessment. By aligning assessment practices with the principles of self-regulated learning, educators can promote student success and create a dynamic and inclusive learning environment. This approach empowers students to become independent and self-regulated learners and helps educators become self-regulated learners.

Artzt and her colleagues (Artzt et al., 2015) devised a comprehensive model to assess reflective practices among pre-service mathematics teachers. This model consists of three distinct stages corresponding to Zimmerman's three phases of self-regulation. The initial, proactive stage involves teachers engaging in meticulous planning for learning and preparing to deliver their lessons. The interactive stage requires teachers to monitor and regulate the learning process while continually assessing and modifying their actions based on the efficacy of the progress. During this time, teachers are tasked with anticipating questions and reactions from students, all the while actively eliciting participation from their students. Finally, the postactive stage requires teachers to self-evaluate and revise their lessons and class activities based on their self-reflection, subsequently adapting their approach accordingly.

Researchers have successfully implemented Artzt et al.'s (2015) model. For instance, Artzt and Armour-Thomas (1999) reported that teachers who prioritize the development of students' understanding and incorporate instructional strategies into their curriculum and instruction are responsive and self-reflective about their teaching methods and assessments. This approach fosters a proactive learning environment for students. Educators can effectively build a solid foundation for their students' learning journey by integrating such instructional strategies into their teaching practice. This integration aligns with the notion that proactive learners are more likely to take ownership of their learning process, enhancing their educational experience. By providing a structured model that aligns with the phases of self-regulation, these researchers have empowered educators to cultivate reflective teaching practices, thereby enhancing the quality of education for students. Additionally, the emphasis on incorporating instructional strategies and fostering a proactive learning environment underscores the pivotal role of teachers in shaping students' learning experiences. As such, the impact of this work extends beyond individual teachers to benefit the broader educational landscape through effective assessment.

My recent modification to integrating curriculum, instruction, and assessment; which incorporated a cyclical self-regulated learning process, has proven to be highly effective in facilitating the understanding and application of learning theories among teacher candidates. By integrating Bandura's social cognitive theory, Piaget's cognitive developmental theory, and Vygotsky's sociocultural theory in a self-regulated manner, students could engage in a structured approach to mastering these theories. Incorporating self-assessments, such as self-monitoring during the writing process, allowed the students and me to assess their self-efficacy, interests, strategies, and goals before commencing their writing, enhancing their forethought phase. Furthermore, inviting students to reflect and assess their self-efficacy, delay of gratification, help-seeking, and self-monitoring during the performance phase provided valuable insights into their writing process. The self-reflection phase at the end of the writing time enabled students to evaluate their performance, express their self-satisfaction, and assess outcomes and feedback. Implementing this cyclical self-regulated learning process resulted in a high level of motivation among students, as evidenced by their exit ticket responses, and significantly improved grades in their written assignments.

Students also transferred the cyclical self-regulated learning process to other college classes and student teaching with their students. Moreover, the successful application of the cyclical self-regulated learning process has extended beyond the classroom, with students reporting they transferred these valuable skills to other college classes and during their student teaching experiences. This transferability underscores the enduring impact of this approach on students' learning and professional development. The positive outcomes observed in student satisfaction and academic performance highlight the effectiveness of integrating self-regulated learning strategies within the curriculum. As such, this pedagogical approach fosters a deep understanding of learning theories and equips teacher candidates with essential skills they can apply in their future teaching practices. Overall, incorporating a cyclical self-regulated learning process has proven to be a valuable addition to the curriculum and assessment, fostering meaningful learning experiences and empowering students to become self-regulated learners with a heightened sense of efficacy and adaptability.

Educational Implications

Framing curriculum, instruction, and assessment from the perspectives of self-regulated learning highlights four significant hallmarks. By integrating these hallmarks into teaching practices, educators can create a more student-centered and engaging learning environment that reassures students with feedback guidance, encourages them to take accountability for their learning, and develops lifelong learning skills.

First, the iterative position of self-regulated learning emphasizes the learners as agentic individuals capable of proactive and self-directed learning in pursuing academic goals. Learners are also capable of self-assessment and self-reflection of learning outcomes. Similarly, teachers are construed as agentic self-regulated educators in control of their curriculum, instruction, and assessment. Teachers and learners engage in self-regulation, socially shared regulation, and co-regulated learning. As outlined by Greene, Bernacki, and Hadwin (2024) and Hadwin, Järvelä, and Miller (2018), students can be self-regulated learners. Teachers can also be self-regulated learners competent in enactive forethought, self-monitoring, and self-reflection. Students and teachers can work together to create a more effective and engaging learning environment by engaging in self-regulated learning

practices. This approach to education encourages a collaborative and supportive learning community where learners and teachers support each other in pursuing academic goals.

The second hallmark is the adoption of culturally self-regulated pedagogy, an essential focus for educators (Bembenutty, 2023; White & Bembenutty, 2014, 2016). Culturally self-regulated pedagogy emphasizes creating an educational assessment system that is not only diverse and equitable, but also deeply inclusive. By embracing this approach, educators can create an educational system that values and respects all students and teachers regardless of their background or circumstances. Integrating self-regulated learning into teaching practices can help create a better learning environment for all. By focusing on student agency and control, metacognitive and reflective practices, and the role of feedback and self-evaluation, educators can help students develop lifelong learning skills. Furthermore, achieving outcomes beyond successful performance and achievement and embracing a culturally self-regulated pedagogy can help create a more diverse, equitable, and inclusive educational system that benefits everyone.

The third hallmark is self-efficacy, associated with perseverance, persistence, self-control, academic delay of gratification, effort, and emotion regulation. Self-efficacy for teaching relates to teachers' effective classroom management, planning, and imparting effective instruction and assessment. The culturally self-regulated pedagogy model conceives self-efficacy as a foundation for valid and reliable curriculum, instruction, and assessment. The efficacy belief is not a global or personality trait within this dynamic pedagogy. Instead, it is a belief system that operates according to factors structured in the environment, the person, and the behavior (Bandura, 1997).

The fourth hallmark highlights the culturally self-regulated pedagogy's adoption of the principles for assessment in the service of learning (Armour-Thomas & Gordon, 2013; Baker et al., this volume). Specifically, this model endorses the principle that assessment transparency assists teachers, learners, administrators, and parents in understanding learning outcomes. Another principle is that effective assessment results in positive academic outcomes for students' self-regulated learning and can enhance teachers' ability to adopt effective curriculum, instruction, and assessment. This model can benefit learners and educators from diverse

backgrounds who aspire to learn, teach, and assess in inclusive and equitable classroom environments (Armour-Thomas & Gordon, 2013).

Another essential principle ingrained in this model is that Assessment equity requires fairness in design of tasks and their adaptation to permit their use with respondents of different backgrounds, knowledge, and experiences. The emphasis on assessment for positive academic outcomes and practical curriculum, instruction, and assessment can benefit learners and teachers from diverse backgrounds. In this sense, teachers are responsible for engaging learners in learning through equitable and fair assessment that can promote and celebrate equity and diversity while instructing and assessing student learning (White & Bembenutty, 2014). This model reflects an equitable educational assessment system in which self-regulated learning facilitates curriculum, instruction, and assessment that can benefit both learners and educators.

Future Research Directions and Conclusion

Beyond just successful performance and achievement, effective curriculum, instruction, and assessment outcomes should include rigor, love, freedom, and joy as outcomes assessments for students and teachers beyond just successful performance and achievement (Zusho et al., 2024). Embracing a new paradigm of standards-based reform can help transform outcomes to achieve these goals. It requires a transformation in the vision and implementation of curriculum, instruction, and assessment. Future research should explore how these four outcomes influence the curriculum, instruction, and assessment in reciprocal interactions (Bandura, 1997).

This deliberate integration of self-regulated learning principles into both in-class activities and homework assignments demonstrates a commitment to fostering students' self-directed learning skills. By engaging in a cyclical process of goal setting, monitoring, and reflection, students are empowered to take ownership of their learning and develop crucial metacognitive abilities. The teacher's role as a facilitator of this process further reinforces the importance of self-regulated learning within the classroom environment. A dynamic assessment system holds promise for cultivating lifelong learners adept at setting goals, monitoring their progress, and reflecting on their learning experiences.

The proactive implementation of the culturally self-regulated dynamic pedagogy assessment model in traditional classrooms is a significant step towards addressing the multifaceted challenges presented by the student population. By integrating self-assessment practices (León et al., 2023) and peer-assessment (Panadero et al., 2023) into the instructional strategies, the educators aimed to cultivate a culture of reflection and self-awareness among the students. This, in turn, was envisioned to contribute towards enhancing their metacognitive skills and fostering a deeper understanding of their learning processes. Furthermore, the emphasis on self-regulated learning aligns with contemporary educational paradigms that recognize the significance of nurturing students' ability to monitor, regulate, and adapt their learning strategies. In doing so, educators are sought to equip students with essential skills for lifelong learning and academic success, transcending the immediate challenges they may face.

Implementing the culturally self-regulated dynamic pedagogy assessment model in an environment characterized by diverse academic abilities and behavioral issues represents a significant step toward promoting inclusive and personalized learning experiences. By foregrounding students' agency in their educational journey, this approach not only addresses immediate academic needs, but also contributes to the holistic development of the students, empowering them to become self-regulated learners capable of navigating complex educational landscapes. However, students need to be ingrained in an educational learning environment that endorses a dynamic system of assessment. The teacher's adaptation of the curriculum, assessment, and instructional approach to incorporate self-regulated learning significantly promotes student autonomy and metacognitive skills.

Conclusion

This chapter underscores the importance of considering the interconnected impact of curriculum, instruction, and assessment on the overall educational experience. It emphasizes the potential for these components to influence the learning journey for both students and educators profoundly. I share the perspective of Armour-Thomas and Gordon (2013) in advocating for the "functional integration of assessment, curriculum, and instruction as instrumental to learning and as the essential components of pedagogy" (p. 2). Their argument for assessment that proactively contributes to student improvement, along with their conceptualization of Dynamic Pedagogy as a pivotal element, has deeply influenced my approach to teaching, self-assessment, and student assessment. I am deeply appreciative of their significant contributions and their role in shaping my professional outlook.

The Culturally Self-Regulated Dynamic Pedagogy Assessment System builds upon the model proposed by Armour-Thomas and Gordon (2013) by emphasizing the significance of a culturally attuned and self-regulated curriculum, instruction, and assessment within our educational framework. This approach aims to elevate the affordances and address the constraints of both learners and educators, leading to positive outcomes for all involved. This chapter encourages readers to recognize that self-regulated learning and cultural considerations are paramount in curriculum, instruction, and assessment. In a dynamic pedagogy assessment system, self-regulated learning and culture matter.

References

Allen, B. A., & Armour-Thomas, E. (1993). Construct validation of metacognition. *The Journal of Psychology, 127*(2), 203–211. https://doi.org/10.1080/00223980.1993.9915555

Armour-Thomas, E. (2008). In search of evidence for the effectiveness of professional development: An exploratory study. *Journal of Urban Learning, Teaching, and Research, 4*, 1–12.

Armour-Thomas, E. (2017). The special role of schooling in the development of academic ability of children and youth. In E. Gordon, B. Jean-Louis, & N. Obiora (Eds.), *Strengthening Families, Communities, and Schools to Support Children's Development* (pp. 63–81). Routledge.

Armour-Thomas, E., & Gordon, E. W. (2013). *Toward an understanding of assessment as a dynamic component of pedagogy.* Educational Testing Service.

Armour-Thomas, E., & Gordon, E. W. (2025). *Principles of dynamic pedagogy: An integrative model of curriculum, instruction, and assessment for prospective and in-service teachers.* Routledge.

Artzt, A. F., & Armour-Thomas, E. (1999). A cognitive model for examining teachers' instructional practice in mathematics: A guide for facilitating teacher reflection. *Educational Studies in Mathematics, 40*(3), 211–235.

Artzt, A. F., Armour-Thomas, E., Curcio, F. R., & Gurl, T. J. (2015). *Becoming a reflective mathematics teacher: A guide for observations and self-assessment.* Routledge.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. Macmillan.

Bandura, A. (2006). Toward a psychology of human agency. *Perspectives on Psychological Science, 1*(2), 164–180. https://doi.org/10.1111/j.1745-6916.2006.00011.x

Bembenutty, H. (2023). Self-regulated learning with computer-based learning environments. *New Directions for Teaching and Learning, 174,* 11–15. Wiley. https://doi.org/10.1002/tl.20543

Bembenutty, H., & Hayes, A. (2018). The triumph of homework completion: Instructional approaches promoting self-regulation of learning and performance among high school learners. In M. K. DiBenedetto (Ed.), *Connecting self-regulated learning and performance with instruction across high school content areas* (pp. 443–470). Springer.

Bembenutty, H., Kitsantas, A., & Cleary, T. J. (Eds.). (2013). *Applications of self-regulated learning across diverse disciplines: A tribute to Barry J. Zimmerman*. Information Age Publishing.

Bembenutty, H., Liem, G. A. D., Allen, K.-A., King, R. B., Martin, A. J., Marsh, H. W., Craven, R. G., Kaplan, A., Schunk, D. H., DiBenedetto, M. K., & Datu, J. A. D. (2023). Culture, motivation, self-regulation, and the impactful work of Dennis M. McInerney. *Educational Psychology Review, 35*(1), 28. https://doi.org/10.1007/s10648-023-09743-3

Bembenutty, H., White, M. C., & Vélez, M. R. (2015). *Developing self-regulation of learning and teaching skills among teacher candidates*. Springer.

Bondie, R., & Zusho, A. (2018). *Differentiated instruction made practical: Engaging the extremes through classroom routines*. Routledge.

Bonner, S., & Chen, P. P. (2019). *Systematic classroom assessment: An approach for learning and self-regulation*. Routledge. https://doi.org/10.4324/9781315123127

Butler, D. L., Schnellert, L., & Perry, N. E. (2017). *Developing self-regulating learners*. Pearson.

Chen, P. P. (2023). Interactions between self-regulated learning and assessment for learning in an undergraduate introductory computer science course. *New Directions for Teaching and Learning, 174,* 49–56. https://doi.org/10.1002/tl.20548

Chen, P. P., & Bonner, S. M. (2020). A framework for classroom assessment, learning, and self-regulation, *Assessment in Education: Principles, Policy & Practice, 27*(4), 373–393. https://doi.org/10.1080/0969594X.2019.1619515

Chen, P. P., & Bonner, S. M. (2023). Teachers' Beliefs About Grading, Grades, and Student Classroom Conduct. *Educational Practice and Theory, 45*(2), 69–91. James Nicholas Publishers. https://doi.org/10.7459/ept/45.2.06

Cleary, T. J., & Russo, M. R. (2024). A multilevel framework for assessing self-regulated learning in school contexts: Innovations, challenges, and future directions. *Psychology in the Schools, 61*(1), 80–102. https://doi.org/10.1002/pits.23035

DiBenedetto, M. K. (Ed.).(2018). *Connecting self-regulated learning and performance with instruction across high school content areas.* Springer.

Dinsmore, D. L., Alexander, P. A., & Loughlin, S. M. (2008). Focusing the conceptual lens on metacognition, self-regulation, and self-regulated learning. *Educational Psychology Review, 20,* 391–409. (2018). *Culturally responsive teaching: Theory, research, and practice.* Teachers College Press.

Golmohammadi, L. (2022). *How to use online probes for social science research.* SAGE.

Greene, J. A., Bernacki, M. L., & Hadwin, A. F. (2024). Self-regulation. In P. A. Schutz & K. R. Muis (Eds.), *Handbook of educational psychology* (pp. 314–334). Routledge. https://doi.org/10.4324/9780429433726-17

Hacker, D. J., & Dunlosky, J. (2003). Not all metacognition is created equal. *New Directions for Teaching & Learning, 95*, 73–79. https://doi.org/10.1002/tl.116

Hadwin, A., Järvelä, S., & Miller, M. (2017). Self-regulation, co-regulation, and shared regulation in collaborative learning environments. In D. H. Schunk & J. A. Greene (Eds.), *Handbook of self-regulation of learning and performance* (pp. 83–106). Routledge.

Hoy, A. W., Hoy, W. K., & Davis, H. A. (2009). Teachers' Self-Efficacy Beliefs. *In Handbook of motivation at school* (pp. 641–668). Routledge.

Jenkins, J. L., & Shoopman, B. T. (2019). Identifying misconceptions that limit student understanding of molecular orbital diagrams. *Science Education International, 30*(3), 152–157. https://doi.org/10.33828/sei.v30.i3.1

Kaplan, A., Neuber, A., & Garner, J. K. (2019). An identity systems perspective on high ability in self-regulated learning. *High Ability Studies, 30*(1–2), 53–78. https://doi.org/10.1080/13598139.2019.1568830

Karabenick, S. A., & Gonida, E. N. (2018). Academic help seeking as a self-regulated learning strategy: Current issues, future directions. In D. H. Schunk, & J. A. Greene (Eds.), *Handbook of self-regulation of learning and performance* (pp. 421–433). Routledge.

Kitsantas, A., Cleary, T. J., DiBenedetto, M. K., & Hiller, S. E. (2024). *Essentials of research methods for educators*. SAGE.

Kramarski, B., & Kohen, Z. (2017). Promoting preservice teachers' dual self-regulation roles as learners and as teachers: Effects of generic vs. specific prompts. *Metacognition and Learning, 12,* 157–191. https://doi.org/10.1007/s11409-016-9164-8

Ladson-Billings, G. (2021). *Culturally relevant pedagogy: Asking a different question.* Teachers College Press.

León, S. P., Panadero, E., & García-Martínez, I. (2023). How accurate are our students? A meta-analytic systematic review on self-assessment scoring accuracy. *Educational Psychology Review, 35*(4), 106. https://doi.org/10.1007/s10648-023-09819-0

Matthews, J. S., & Wigfield, A. (2024). Past due! Racializing aspects of situated expectancy-value theory through the lens of critical race theory. *Motivation Science*. Advanced online publication. https://doi.org/10.1037/mot0000337

Panadero, E., Alqassab, M., Fernández Ruiz, J., & Ocampo, J. C. (2023). A systematic review on peer assessment: intrapersonal and interpersonal factors. *Assessment & Evaluation in Higher Education, 48*(8), 1053–1075. https://doi.org/10.1080/02602938.2023.2164884

Pape, S. J., Bell, C. V., & Yetkin-Ozdemir, I. E. (2013). Sequencing components of mathematics lessons to maximize development of self-regulation: Theory, practice, and intervention. In H. Bembenutty, T. J. Cleary, & A. Kitsantas (Eds.), *Applications of self-regulated learning across diverse disciplines: A tribute to Barry J. Zimmerman* (pp. 29–58). Information Age Publishing.

Schunk, D. H., & Greene, J. A. (Eds.). (2018).*Handbook of self-regulation of learning and performance*. Routledge.

Slavin, R. E. (2018). *Educational psychology: Theory and practice*. Pearson.

Täschner, J., Dicke, T., Reinhold, S., & Holzberger, D. (2024). "Yes, I Can!" A systematic review and meta-analysis of intervention studies promoting teacher self-efficacy. *Review of Educational Research*. https://doi.org/10.3102/00346543231221499

Veenman, M. V. J. (2007). The assessment and instruction of self-regulation in computer-based environments: a discussion. *Metacognition and Learning, 2,* 177–183. https://doi.org/10.1007/s11409-007-9017-6

Veenman, M. V. J. (2011). Alternative assessment of strategy use with self-report instruments: A discussion. *Metacognition and Learning, 6*, 205–211. https://doi.org/10.1007/s11409-011-9080-x

White, M. C. (2017). Cognitive modeling and self-regulation of learning in instructional settings. *Teachers College Record, 119*, 1–26.

White, M. C., & Bembenutty, H. (2014, October). *Teachers as culturally proactive agents through cycles of self-regulation.* Paper presented at the Dept. of Secondary Education and Youth Services Research Symposium, Queens College, New York, NY.

White, M. C., & DiBenedetto, M. K. (2015). *Self-regulation and the common core: Application to ELA standards*. Routledge.

White, M. C., & DiBenedetto, M. K. (2018). Self-regulation: An integral part of standards-based education. In D. H. Schunk & J. A. Greene (Eds.), *Handbook of self-regulation of learning and performance* (2nd ed., pp. 208–222). Routledge. https://doi.org/10.4324/9781315697048-14

Woolfolk Hoy, A., & Weinstein, C. S. (2006). Students' and teachers' perspectives on classroom management. In C. Evertson, & C. S. Weinstein (Eds.), *Handbook for classroom management: Research, practice, and contemporary issues* (pp. 181–220). Erlbaum.

Zimmerman, B. J. (2000). Self-efficacy: An essential motive to learn. *Contemporary Educational Psychology, 25,* 82–91. https://doi.org/10.1006/ceps.1999.1016

Zimmerman, B. J. (2013). From cognitive modeling to self-regulation: A social cognitive career path. *Educational Psychologist, 48*(3), 135–147. https://doi.org/10.1080/00461520.2013.794676

Appendix

Figure 1.

Barry J. Zimmerman's cyclical model of self-regulated learning.

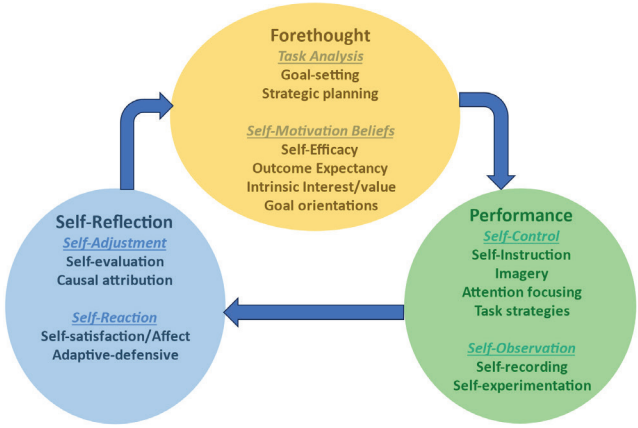


Figure 2.

Armour-Thomas and Gordon's Dynamic Pedagogy Framework

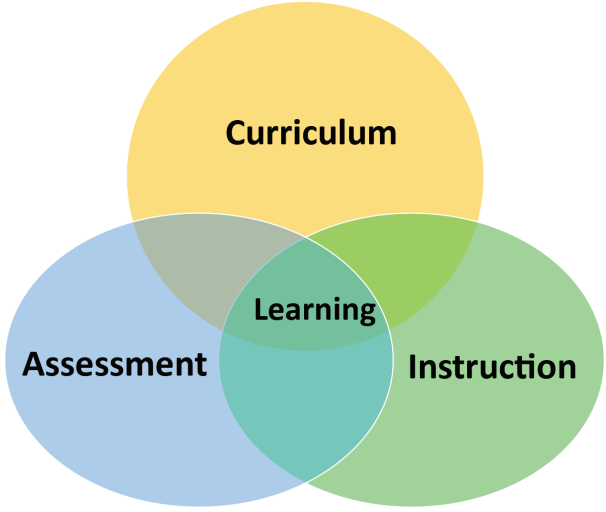


Figure 3.
Culturally Self-Regulated Dynamic Pedagogy Assessment Model

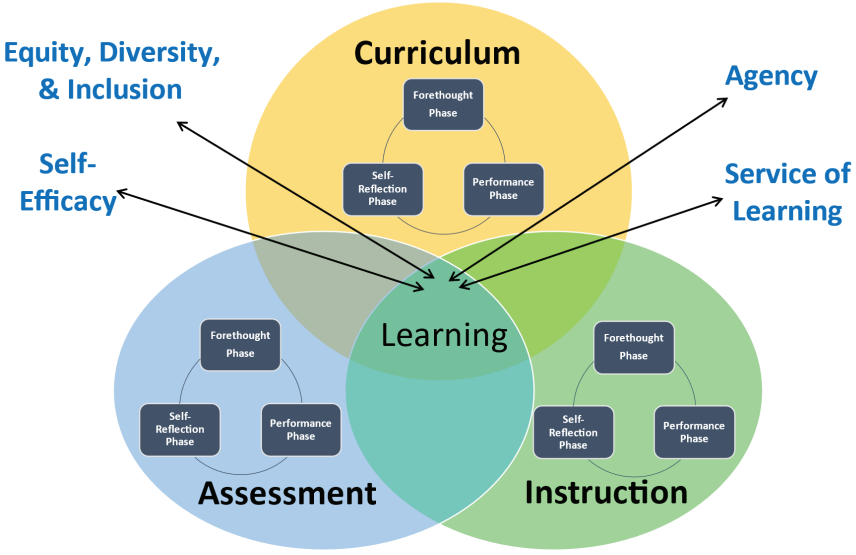


Table 1

Developing Educational Assessments to Serve Learners

Assessment Dynamic Pedagogy	Culturally Self-Regulated Dynamic Pedagogy Assessment System
Curriculum Strand	
• Encompasses the fundamental ideas, rules, criteria, and resources that teachers utilize to facilitate learning effectively and involves the careful arrangement and communication of content knowledge in a manner accessible to learners. • Aims to deliver content at a suitable level for the target audience, ensuring that it is tailored appropriately to their needs and abilities. • Aligns closely with the evaluation of students' learning outcomes ensuring assessment is focused, fair, and accurate.	• Embeds self-regulated learning within its structure, encompassing three cyclical phases: forethought, performance, and self-reflection. • Guides by the principles of cultural self-regulated pedagogy to foster self-regulated learning among diverse learners. • Provides clear learning goals, expectations, strategies, and resources to facilitate effective planning and self-motivation in the forethought phase. • Offers a diverse range of media and formats to deliver content, catering to various learning preferences and styles, and students are provided with opportunities to seek feedback and monitor their progress in the performance phase. • Incorporates tools and activities that enable students to evaluate their learning outcomes, including their attributions and adaptability in the self-reflection phase.

Continued on the next page

Table 1. (continued)

Assessment Dynamic Pedagogy	Culturally Self-Regulated Dynamic Pedagogy Assessment System
Instruction Strand	
• Consists of strategies helpful to facilitate learning, including guided practice, supervised independent practice, modeling, scaffolding, and peer learning. • Relates to assessment by revealing strengths and limitations in the assessment process. • Facilitates assessment feedback, which teachers can use to implement new instructional approaches that could result in effective learning.	• Embeds self-regulation within the instruction dimension, including three phases shaping the self-regulated learning processes. • Creates opportunities for self-assessing self-efficacy, interest, and task value. Teachers can model ways to set measurable and realistic goals and identify learning goals and strategies in the forethought phase. • Helps self-monitor progress by providing self-monitoring forms or logs and inviting them to seek help and assess their self-efficacy again during the performance phase. • Engages students in self-assessment or practice peer assessment and self-evaluation and helps them adopt appropriate attributions for academic success or failure in the self-reflection phase. • Adopts a culturally self-regulated pedagogy in the classroom, and teachers and students are construed as agents willing to engage in socially shared regulation and co-regulation.

Continued on the next page

Table 1. (continued)

Assessment Dynamic Pedagogy	Culturally Self-Regulated Dynamic Pedagogy Assessment System
Assessment Strand	
• Consists of strategies helpful to facilitate learning, guided practice, independent practice, modeling, scaffolding, and peer learning. • Relates to assessment by revealing strengths and limitations in the assessment process. • Implements instruction that could result in effective learning given assessment feedback. • Includes two probes. The online probe helps teachers assess students' prior knowledge, skills, and readiness for new learning, while the metacognitive probe helps students become aware of effective learning strategies.	• Embeds self-regulation within the assessment dimension, including three phases shaping the self-regulated learning processes. • Embraces assessment that is culturally sensitive, validated, and reliable. • Ensures the assessment has undergone a rigorous task analysis, activated prior knowledge, and enabled students to use strategies within reasonable self-efficacy beliefs in the forethought phase. • Allows students to successfully apply and monitor goals and strategies to complete the tasks in the performance phase. • Serves as a tool for self-evaluation, provides feedback, and conveys expectations that learning is possible in the self-reflection phase. • Offers opportunities for diverse ways of responding while it is culturally fair.
Note: The Culturally Self-Regulated Dynamic Pedagogy Assessment System includes all the functions outlined in the Assessment Dynamic Pedagogy model.	

Table 2

Comparing Curriculum between Culturally Self-Regulated Pedagogy (CSP) and Culturally Responsive Teaching (CRT)

CSP	CRT	CSP	CRT
Assessment: TEACHERS		**Assessment: STUDENTS**	
Content Engagement			
Design content that includes cultural values for practicing self-regulation, such as research projects.	Design content that reflects students' cultural backgrounds, making learning more relevant and meaningful.	Engage with content that includes activities for practicing self-regulation.	Engage with content that reflects their cultural backgrounds, making learning more relevant and meaningful.
Curriculum Goals			
Set curriculum goals that encourage students to develop self-regulation skills and cultural awareness.	Set curriculum goals that foster cultural awareness and respect diverse cultural backgrounds.	Set goals and develop plans to achieve them, focusing on self-regulation skills.	See their cultural identities reflected in the curriculum goals and a sense of belonging and relevance.
Resource Utilization			
Provide resources (e.g., self-monitoring forms, homework logs) to support students' self-regulated learning.	Provide culturally diverse resources that reflect students' cultural backgrounds and experiences.	Use resources like planners and goal-setting templates to support their self-regulated learning.	Access culturally diverse resources that reflect their cultural backgrounds and experiences.
Curriculum Relevance			
Select topics for research projects that align with students' personal interests and academic goals, fostering self-regulation.	Choose research topics that reflect students' cultural backgrounds and experiences, making learning more meaningful and engaging.	Select topics for research projects that align with their personal interests and academic goals, fostering self-regulation.	Choose research topics that reflect their cultural backgrounds and experiences, making learning more meaningful and engaging.

Continued on the next page

Table 2. (continued)

CSP	CRT	CSP	CRT
Assessment: TEACHERS		**Assessment: STUDENTS**	
Technology Integration			
Integrate technology tools that support cultural diversity and self-regulated learning, such as goal setting and progress-tracking apps.	Use technology to provide access to culturally diverse resources and understanding of diverse cultures.	Use technology tools that support self-regulated learning, such as goal setting and progress-tracking apps.	Use technology to access culturally diverse resources and materials, enhancing their understanding of diverse cultures.
Independent Learning			
Design independent learning activities that require students to set goals, plan their work, and monitor their progress within their cultural interests.	Design independent learning activities incorporating students' cultural interests and experiences, making learning more engaging	Engage in independent and proactive learning activities that require them to set goals, plan, and monitor their progress.	Participate in independent learning activities incorporating their cultural interests and experiences, making learning more engaging.

Table 3

Comparing Instruction between Culturally Self-Regulated Pedagogy (CSP) and Culturally Responsive Teaching (CRT)

CSP	CRT	CSP	CRT
Assessment: TEACHERS		**Assessment: STUDENTS**	
Learning Strategies			
Use strategies that promote self-regulated learning, such as teaching students how to set goals, monitor their progress, and adjust their strategy.	Employ culturally responsive instructional strategies that reflect students' cultural identities and experiences, making learning more relatable.	Learn and apply self-regulation strategies, such as goal setting, time management, and self-assessment.	Participate in culturally responsive learning activities that incorporate their cultural experiences and perspectives.
Student Autonomy and Peer Feedback			
Encourage autonomy by allowing students to choose their learning activities and set goals and encourage students to provide and receive peer feedback on their self-regulation strategies,	Incorporate students' cultural practices and preferences into the learning process, allowing culturally relevant choices in learning activities and facilitating culturally sensitive peer feedback	Take ownership of their learning by setting their own goals, monitoring their progress and providing and receiving peer feedback on their self-regulation strategies,	Have the opportunity to make culturally relevant choices in their learning activities, enhancing engagement and motivation and give and receive culturally sensitive peer feedback.
Independent and Collaborative Learning			
Promote independent and collaborative learning activities that help students develop self-regulation skills, where students set goals and monitor their progress.	Facilitate independent and collaborative learning activities that encourage cultural exchange, allowing students to learn from each other's diverse cultural perspectives.	Work independently and collaborate with peers to set group goals and monitor progress, developing self-regulation skills.	Engage in independent and collaborative learning activities that promote cultural exchange and understanding.

Continued on the next page

Table 3. (continued)

CSP	CRT	CSP	CRT
Assessment: TEACHERS		**Assessment: STUDENTS**	
Diverse Instruction			
Use diverse instruction to cater to students' self-regulation needs, providing various support and resources based on students' self-regulation skills.	Use differentiated instruction to address diverse cultural backgrounds, ensuring all students can access culturally relevant experiences.	Receive diverse instruction based on their individual self-regulation needs, with varying levels of support.	Benefit from differentiated instruction that addresses their diverse cultural backgrounds, ensuring meaningful learning experiences.
Motivation and Self-Efficacy			
Use motivational approaches that promote self-efficacy and self-regulation, such as setting and rewarding incremental goals.	Use culturally relevant motivation techniques to increase engagement, such as incorporating students' cultural interests and values into the learning process.	Use motivation approaches that promote self-regulation (e.g., setting incremental goals, providing rewards and self-efficacy).	Use culturally relevant motivation techniques, such as incorporating their cultural interests and values into the learning process to increase engagement.

Table 4

Comparing Assessment between Culturally Self-Regulated Pedagogy (CSP) and Culturally Responsive Teaching (CRT)

CSP	CRT	CSP	CRT
Assessment: TEACHERS		**Assessment: STUDENTS**	
Self-Assessment			
Use self-assessment tools to help students reflect on their learning and identify areas for improvement and content knowledge.	Use culturally responsive assessments that consider students' cultural backgrounds and understanding.	Use self-assessment tools to reflect on their learning and identify areas for improvement.	Participate in culturally responsive assessments that consider their cultural backgrounds and understanding.
Formative Assessment			
Provide formative feedback that helps students develop self-regulation skills and adjust their learning strategies.	Give culturally sensitive feedback that acknowledges students' cultural identities and supports their academic growth.	Receive formative feedback that helps them develop self-regulation and content skills and adjust their learning strategies.	Receive culturally sensitive feedback that acknowledges their cultural identities and supports their academic growth.
Summative Assessment			
Design summative assessments that require students to demonstrate their self-regulation skills and content knowledge, such as comprehensive projects or portfolios.	Design summative assessments that allow students to showcase their cultural knowledge through culturally relevant projects.	Complete summative assessments requiring the demonstration of self-regulation skills, such as comprehensive projects or portfolios within specific content.	Engage in summative assessments that allow them to showcase their cultural knowledge and perspectives, such as through culturally relevant projects.

Continued on the next page

Table 4. (continued)

CSP	CRT	CSP	CRT
Assessment: TEACHERS		**Assessment: STUDENTS**	
Performance Tasks			
Design performance tasks requiring students to demonstrate self-regulation skills, such as managing a long-term project and identity.	Design performance tasks that allow students to showcase their cultural knowledge (e.g., a cultural presentation).	Complete performance tasks requiring the demonstration of self-regulation skills, such as managing a long-term project.	Engage in performance tasks that allow them to showcase their cultural knowledge, such as creating a cultural presentation.
Self-Reflective Tools			
Encourage students to keep reflective journals and self-monitor tools to track their progress and reflect on their self-regulation strategies and cultural awareness.	Encourage students to use reflective journals to explore their cultural identities and how their cultural experiences influence their learning.	Keep reflective journals and logs to track their progress and reflect on their self-regulation strategies and cultural experiences.	Use reflective journals to explore their cultural identities and how their cultural experiences influence their learning.