

Self-Regulation Assessment Suite 2023 Technical Report

This technical report can be cited as: Gaumer Erickson, A. S., & Noonan, P. M. (2023). *Self-regulation assessment suite: Technical report*. College & Career Competency Framework. <u>https://www.cccframework.org/</u>

Defining Self-Regulation

"Self-regulation is the ability to plan, self-evaluate, and adjust your course of action for improved outcomes" (Noonan & Gaumer Erickson, 2018, p. 51). To self-regulate, an individual must proactively apply self-directive processes, cognitive behaviors, and emotions to attain goals, learn skills, and manage emotional reactions (Abar & Loken, 2010; Zimmerman & Schunk, 2011). Self-regulated learners are "metacognitively, motivationally, and behaviorally active participants in their own learning process" (Zimmerman, 1986, as cited in Zimmerman, 2008, p. 167). The self-regulation process can be described as making a plan, monitoring that plan, making changes to stay on track, and reflecting on the process and outcome (Noonan & Gaumer Erickson, 2018). To self-regulate, students must enact a proactive, self-directed process for attaining goals, learning skills, managing emotional reactions, and accomplishing tasks.

The Self-Regulation Assessment Suite is a companion to the College and Career Competency Framework instructional materials. This suite measures a student's knowledge, perceived level of proficiency, and performance across the four essential components of self-regulation:

- 1. <u>Plan</u> for and articulate what you want to accomplish.
- 2. Immediately monitor progress and interference regarding your goal.
- 3. <u>Adjust</u> by implementing specific strategies when things are not going as planned.
- 4. <u>Reflect</u> on what worked and what you can do better next time. (Noonan & Gaumer Erickson, 2018)

The Assessment Suite

Self-regulation assessments included in this suite are formative measures designed to guide students' reflection and educators' instruction. The assessments are not intended to provide a summative evaluation. When combined with other data sources, these assessments guide decision making for direct instruction that builds students' knowledge, for guided practice that develops students' fluency, and for independent practice with ongoing coaching that promotes students' proficiency and generalization. **All assessments are free** for educational professionals to administer if utilizing the results for skill development or program improvement.

Formative Questionnaires. These self-report measures ask students to rate behaviors on Likert-type scale. Accommodations should be provided when appropriate and may include reading the items aloud, explaining the items, and having a scribe fill in the response option. These questionnaires should not be used as a pre/post measure. As students learn more about self-regulation, their internal frame of reference may shift, causing them to become more critical in their self-assessment; this phenomenon is called response shift bias (Bray et al., 1984; Drennan & Hyde, 2008). Three self-regulation questionnaires promote students' reflection in kindergarten through second grade, third through sixth grade, and seventh grade or higher. See Appendix A for Formative Questionnaire items.

The Self-Regulation Questionnaire (K–2) asks students to respond to six items using emojis for *Like Me*, *Not Sure*, and *Not Like Me*. In most instances, this questionnaire should be read aloud to students. The questionnaire can be cited as: Heger, E. S., Haught, T., Noonan, P. M., & Gaumer Erickson, A. S. (2022). Self-Regulation Questionnaire (K–2). In *Teaching self-regulation in elementary classrooms K–2* (pp. 2–3) [Teacher lessons and student workbook]. College & Career Competency Framework. <u>https://www.cccframework.org/competency-lessons-and-student-workbooks/</u>

The Self-Regulation Questionnaire (3–6) asks students to respond to 19 items on a 5-point Likert-type scale from *Not Very Like Me* to *Very Like Me*. The questionnaire can be cited as: Heger, E. S., Haught, T., Noonan, P.



M., & Gaumer Erickson, A. S. (2022). Self-Regulation Questionnaire (3–6). In *Teaching self-regulation in elementary classrooms 3–6* (p. 3) [Teacher lessons and student workbook]. College & Career Competency Framework. <u>https://www.cccframework.org/competency-lessons-and-student-workbooks/</u>

The Self-Regulation Questionnaire (7–12) asks students to respond to 28 items on a 5-point Likert-type scale from *Not Very Like Me* to *Very Like Me*. This questionnaire was designed for students in middle and high school. The questionnaire can be cited as: Gaumer Erickson, A. S., Monroe, K., Soukup, J., & Noonan, P. M. (2018). Self-Regulation Formative Questionnaire. In P. M. Noonan & A. S. Gaumer Erickson, *The skills that matter: Teaching interpersonal and intrapersonal competencies in any classroom* (pp. 177–178). Corwin.

Knowledge Tests. These curriculum-based measures, designed for grades 3–6 and grade 7 or higher, assess students' knowledge of self-regulation constructs and judgement of the most effective course of action when applying these constructs. The test includes multiple-choice, yes/no, true/false, situational judgement, and short-answer items. The knowledge test is directly aligned with lessons available for purchase at https://www.cccframework.org/competency-lessons-and-student-workbooks/. The test can be used as a pre/post measure prior to and after teaching the self-regulation lessons. Accommodations should be provided when appropriate and may include reading the items aloud, explaining the items, or having a scribe fill in the response option. See Appendix B for Knowledge Test items.

The Self-Regulation Knowledge Test (3–6) includes 15 items. The assessment can be cited as: Heger, E. S., Haught, T., Noonan, P. M., & Gaumer Erickson, A. S. (2022). Self-Regulation Knowledge Test (3–6). In *Teaching self-regulation in elementary classrooms 3–6* (pp. 3–4) [Teacher lessons and student workbook]. College & Career Competency Framework. <u>https://www.cccframework.org/competency-lessons-and-student-workbooks/</u>

The Self-Regulation Knowledge Test (7–12) includes 21 items. This assessment can be cited as: Gaumer Erickson, A. S., Noonan, P. M., Loewenstein, M., & Monroe, K. (2019). Self-Regulation Knowledge Test. In A. S. Gaumer Erickson & P. M. Noonan (2022), *Teaching self-regulation: 75 instructional activities to foster independent, proactive students, Grades 6–12* (pp. 159–162). Solution Tree Press.

Performance-Based Observation. This assessment is designed to be embedded within authentic situations such as academic courses and extracurricular activities. The Self-Regulation Performance-Based Observation can be used at purposeful intervals to monitor each student's development. Based on observations across time or in specific situations, the educator rates each student's self-regulatory behaviors on the following scale:

- *Beginning*: Not yet able to demonstrate without scaffolding;
- *Emerging*: Minimal or superficial demonstration, prompting likely required;
- *Proficient*: Sufficient demonstration, including self-appraisal and detailed, personalized application;
- Advanced: Independent and consistent demonstration, teaches/prompts others; or
- *Not Observed*: Documented if there has not been the opportunity to observe the behavior performed by an individual student.

See Appendix C for Performance-Based Observation items.

The observation can be cited as: Gaumer Erickson, A. S., & Noonan, P. M. (2018). Self-Regulation Performance-Based Observation. In *Teaching self-regulation: 75 instructional activities to foster independent, proactive students, Grades 6–12* (2022, p. 135). Solution Tree Press.

Performance-Based Reflection. This assessment, directly aligned with the Performance-Based Observation, promotes students' reflection on their demonstration of self-regulatory behaviors within authentic situations. This four-item rubric guides students to determine the quality of their planning, monitoring, adjusting, and reflecting related to a specific task or project. Triangulating students' ratings with the Performance-Based observation results in a more comprehensive analysis of performance. The Self-Regulation Performance-Based



Reflection can be used at purposeful intervals to monitor the development of each student. See Appendix D for Performance-Based Reflection items.

The self-assessed reflection can be cited as: Gaumer Erickson, A. S., & Noonan, P. M. (2022). Self-Regulation Performance-Based Reflection. In *Teaching self-regulation: 75 instructional activities to foster independent, proactive students, Grades 6–12* (p. 134). Solution Tree Press.

Administering the Formative Questionnaire and Knowledge Test

Teachers can simultaneously launch the Self-Regulation Formative Questionnaire and Knowledge Test by visiting <u>https://www.cccstudent.org/</u>, creating a free account, and following the instructions provided on the website. Through this website, which is free and available to all educators, these assessments have been combined to ease administration, together requiring less than 20 minutes for students to complete. Once students have completed the assessments, teachers can view graphed results for individual students and aggregate results for all their students. Teachers can also download a raw data file.

Teachers distribute the assessments to students by providing the URL (<u>https://www.cccstudent.org/</u>) and a unique survey code; the survey code is provided on the website when a survey is added to the teacher's portal. Once on the website, student select *Quiz Yourself* and enter the code. They do <u>not</u> log into the website. The assessment results are automatically generated for each student and available to them once all items are answered. This enables each student to reflect on results immediately. If a printable version of an assessment is needed, please contact <u>researchcollaboration@ku.edu</u>.

Directions to Students. Explain to students that they will each take a self-regulation assessment. Results will help them better understand how they self-regulate right now, determine their knowledge of self-regulation concepts, and promote reflection on their ability to identify how best to apply self-regulation in specific situations. Inform students that this test will not be used as a grade but that you want them to be reflective and honest because they will use the information to think about their strengths and areas for growth.

Provide students with the URL (<u>https://www.cccstudent.org/</u>) and code. Once on the website, students select *Quiz Yourself* on the top left and enter the code. Remind students to enter their student-specific number (e.g., school ID, or assign each student a number). This number will allow you, as the teacher, to view their individual results.

For the questionnaire items, ask students to pause and reflect on their self-regulation behaviors across the last couple of months and how well they were able to self-regulate in various situations to work toward or accomplish tasks. Explain that the knowledge test assesses students' knowledge of self-regulation concepts and potential ways to effectively self-regulate in certain situations. Remind students that, after finishing the test, they should stay on the results page to record their results. Give students adequate time to complete the assessment (approximately 15–20 minutes).

Prompt students to write down their self-assessment scores from the graph on the results page. The scores are on a 100-point scale, so that they can be interpreted as percentages. If a student received a score of 75 on Component 1, that is similar to a 75% on that component. In addition to the composite scores, each item will be displayed with the associated component and student's rating. Have students identify a couple questionnaire items that are strengths and a couple questionnaire items that represent areas for improvement.

Finally, have students write down their knowledge score. This score is at the end of the report. Additional instructions for facilitating students' reflection and using the Self-Regulation Formative Questionnaire and Knowledge Test results are provided in the lessons available for purchase at https://www.cccframework.org/competency-lessons-and-student-workbooks/.



Scoring the Essay Item. Log into your account on <u>https://www.cccstudent.org/</u>. In My Portal, click on the name of the assessment. The table provides the option to score each student's response to the essay question. Assign points on a scale of 0–3, giving a point for each distinct action directly related to self-regulation.

Using the Results. Results by component (i.e., plan, monitor, adjust, reflect) support reflection on relative strengths and areas for improvement. Students can analyze their individual results to increase behaviors in which they, based on their own reporting, are not performing consistently. Students can also discuss self-regulation with others and begin to apply this knowledge to their own experiences.

By determining the areas of self-regulation to pinpoint, teachers can enhance their instructional practices through targeted instruction. After facilitating continual guided and independent practice with feedback, teachers can readminister the Self-Regulation Formative Questionnaire and Knowledge Test and, based on the results, alter instruction to further bolster students' self-regulation knowledge and skills. It is expected that after instruction, students' scores will increase on the knowledge portion of the assessment; the self-report questionnaire portion is not designed as a pre/post measure but instead to promote ongoing reflection of relative strengths and areas for growth. The data allow teachers to engage in data-driven decision making to increase their students' fundamental abilities to plan what they want to accomplish, monitor their own progress, adjust their plans as needed, and reflect on progress toward their goals and the actions that helped them make that progress.

Comparing Assessments. Further analysis of the Self-Regulation Formative Questionnaire and Knowledge Test is available through the use of comparison tools. There are three comparison types:

- **Compare Two Administrations** is typically used for pre/post testing. Commonly an administrator or teacher will give a pretest to review students' prior knowledge of assertiveness before teaching <u>lessons</u> covering the topic. After a posttest is given, this tool helps to discern areas of improvement and areas that may require reteaching. Note that this tool is not exclusive to pre/post situations; it is handy for any assessment that you administered twice.
- **Compare Two Subgroups** is convenient for reviewing whether a specific subgroup may need a different teaching strategy. Examples might include comparing two grades or genders.
- Compare Two Tests for a Student is used to compare the progress for individual students.

To access the comparison tools, log into your account on <u>https://www.cccstudent.org/</u>. On the left side of the home page, select *Compare Assessments* and then choose the type of comparison you would like to make.

Administering the Performance-Based Observation and Reflection

The Self-Regulation Performance-Based Observation is purposefully planned and administered at key intervals during the school year. Teachers create conditions in which students have opportunities to demonstrate the specific self-regulation behaviors. The self-regulation lessons (https://www.cccframework.org/competency-lessons-and-student-workbooks/) provide numerous curriculum-based activities that lend themselves to performance-based observations. Following the instruction on https://www.cccstudent.org/, educators conduct observations on each student, ideally in the fall, winter, and spring. To further promote student reflection, each student can rate their proficiency on the self-regulation indicator(s) related to the specific context (e.g., course or activity). Teachers can then compare these self-ratings to observed behaviors, lending strength to the ratings or determining inaccuracies in knowledge or fluency.

Using the Results. Results support students' reflection on relative strengths and areas for improvement. Educators use the results to reflect on whole-class instruction (including guided practice, coaching, and constructive feedback) necessary for students to become proficient in a given indicator. When educators review the results for individual students, instructional support may be necessary to augment the learning and practice, focusing on growth toward proficiency in the indicator(s).

Permission to Use the Assessments

Unlimited rights are given to educational professionals to administer the assessments and utilize the results for skill development and program improvement. Educators are expected to include the citation of the assessment(s) within all dissemination of assessment items or results. The content of the assessments cannot be modified, reproduced, or published in any profit-bearing format without prior written permission from the authors. For permission to use the assessment(s) for research purposes, please contact Dr. Amy Gaumer Erickson at researchcollaboration@ku.edu.

College & Career Competency

Reliability and Validity

Reliability. The Self-Regulation Formative Questionnaire was initially tested for reliability using Cronbach's coefficient alpha with 1,354 responses from middle school and high school students in 2015 (28 items; $\alpha =$.889). Exploratory factor analysis (EFA) was performed to test the concept homogeneity, revealing that the questionnaire measured a single factor, referred to as self-regulation. Revisions were made to shorten the questionnaire while maintaining acceptable internal consistency. The 22-item Self-Regulation Formative Questionnaire was tested for reliability using Cronbach's coefficient alpha. Demographic data of grade and gender were added to the questionnaire in fall 2017. Of the 12,882 responses that were completed between August 2017 and March 2019, 6,057 (47%) were female, 6,055 (47%) were male, and 770 (6%) did not report gender. The dataset included 1,162 responses from students in sixth grade, 2,067 in seventh grade, 1,605 in eighth grade, 1,980 in ninth grade, 1,524 in10th grade, 1,407 in 11th grade, 1,528 in 12th grade, and 1,609 posthigh school. The overall Self-Regulation Formative Questionnaire was found to be highly reliable (22 items; a = .894), and factor analyses supported the scale as measuring a single construct. Internal consistency above α = .86 was maintained for grade level and gender subgroup analyses. When converted to a 100-point scale, the bottom quartile ranged from 20 to 64, and the top quartile ranged from 81 to 100. To guide students' reflection, items are loosely grouped into four categories: (1) Plan for and articulate what you want to accomplish; (2) Immediately monitor progress and interference regarding your goal; (3) Adjust by implementing specific strategies when things are not going as planned; and (4) Reflect on what worked and what you can do better next time.

The Self-Regulation Knowledge Test was tested for reliability using Cronbach's coefficient alpha with 345 students in grades 9–12. The analysis showed that Item 9 did not support the construct; post-deletion reliability estimates were acceptable (19 items; $\alpha = .81$).

The Self-Regulation Performance-Based Observation and Reflection have not yet been tested for reliability.

Content Validity. Construction of the measures began in 2015 after a thorough review of literature on self-regulation, including the related terms of self-management, executive functioning, goal-directed action, agency, and time management (Gaumer Erickson, Noonan & Lantz, 2023a, 2023b). Abbreviated literature reviews (elementary and secondary research guides) were developed and are available at https://www.cccframework.org/resources/. Existing measures, including the Motivated Strategies for Learning Questionnaire (Pintrich et al., 1993), Self-Regulated Learning Interview Schedule (Zimmerman & Martinez-Pons, 1988), Arc's Self-Determination Scale (Wehmeyer & Kelchner, 1995), and the Self-Regulation Strategy Inventory (Cleary, 2006) were reviewed by a team of researchers. Items were constructed and categorized. Three educational professionals with doctorates in education and one licensed clinical social worker specializing in adolescent social-emotional development reviewed the items. Revisions were made to enhance research alignment, response specificity, and applicability to adolescents.

Substantive Validity. The Self-Regulation Questionnaire items were tested in 2015 with eight adolescents using a think-aloud format where the adolescents verbalized their thought processes for answering the items. These students also identified items that were confusing or might have had varied interpretations. Revisions were made to enhance response specificity and applicability to adolescents. Beta testing was conducted in 2015 with 1,354 students in conjunction with a professional learning process for educators. After launching the



questionnaire, these teachers guided students through a reflection process on the results. The teachers then provided feedback to the researchers regarding students' depth of reflection and usefulness of the results.

The knowledge test items underwent a similar process with initial testing using a think-aloud format with three adolescents. Prior to public release, beta testing was conducted with 150 students in one school. A focus group with educators at this school determined the perceived accuracy of results among students and educators. These teachers also identified specific instructional activities they could undertake to enhance the skills of students related to specific knowledge items. This action-oriented reflection is a primary purpose of the formative assessments.

Structural Validity. Factor analyses with scree plots of both the Self-Regulation Formative Questionnaire and Self-Regulation Knowledge Test were conducted to examine the correlations among items. Both measures were determined to assess a single construct. All but two items on the knowledge test were strong predictors of overall performance (i.e., high-performing students performed better at the individual item level). Items 2 and 3 discriminated negatively.

Generalizability Validity. While assessed through different methods, all measures in this suite evaluate the construct of self-regulation. The questionnaire focuses on self-reported behaviors, while the knowledge test assesses knowledge of core constructs. Correlations between the Self-Regulation Formative Questionnaire and the Self-Regulation Knowledge Test were acceptable (.36), as determined for a sample of 345 students in grades 9–12. Generalizability validity data will be collected and analyzed regarding the Performance-Based Observation and Reflection.

Fairness. Demographic data collected through the questionnaire and knowledge test include gender and grade level. Overall, females reported higher self-regulatory behaviors than males. Females also scored higher on the knowledge test than males. Statistically significant but not functionally significant effect-size differences were found across grade levels. No significant differences were found among schools based on free-and-reduced-lunch rates, diversity levels, or urbanicity classifications. Race, ethnicity, and poverty differences at the individual student level have not been tested, as these demographics are not collected through the assessments.

Consequential Validity. Grade point average (GPA) as an indicator of course performance has been described in the research as a key outcome variable associated with self-regulation (Dignath et al., 2008; Nota et al., 2004; Ursache et al., 2012; Zimmerman, 2008). Three studies were conducted in 2019–2021 in which the Self-Regulation Formative Questionnaire and Knowledge Test results were analyzed as predictive of GPA for high school students (Gaumer Erickson, Noonan, & Brussow, 2023). Study 1, conducted with 345 students in a high school with an 88% White population, found that when used as a predictive variable for Fall 2019, Quarter 1, GPA, the composite questionnaire score predicted 24% of the variance in GPA (significant at the .001 confidence level); the composite knowledge test score predicted 11% of the variance in GPA (significant at the .001 confidence level); and a combination of the questionnaire and knowledge test predicted 28% of the variance in end-of-quarter GPA (significant at the .001 confidence level). Study 2, conducted with 192 students in a high school with an 86% Hispanic population, found that when used as a predictive variable for Fall 2020 semester GPA, the composite questionnaire score predicted 15% of the variance in GPA (significant at the .001 confidence level); the composite knowledge test score predicted 4% of the variance in GPA (significant at the .01 confidence level); and a combination of the questionnaire and knowledge test predicted 19% of the variance in end-of-semester GPA (significant at the .001 confidence level). Study 3, conducted with 726 students in a high school with an 68% Hispanic and 22% White population, found that when used as a predictive variable for cumulative GPA, the composite questionnaire score predicted 12% of the variance in GPA (significant at the .001 confidence level); the composite knowledge test score predicted 7% of the variance in GPA (significant at the .001 confidence level); and a combination of the questionnaire and knowledge test predicted 17% of the variance in cumulative GPA (significant at the .001 confidence level).



References

- Abar, B., & Loken, E. (2010). Self-regulated learning and self-directed study in a pre-college sample. *Learning and Individual Differences*, 20(1), 25–29. <u>https://doi.org/10.1016/j.lindif.2009.09.002</u>
- Bray, J. H., Maxwell, S. E., & Howard, G. S. (1984). Methods of analysis with response-shift bias. *Educational* and Psychological Measurement, 44(4), 781–804. <u>https://doi.org/10.1177/0013164484444002</u>
- Cleary, T. J. (2006). The development and validation of the Self-Regulation Strategy Inventory—Self-Report. *Journal of School Psychology*, 44(4), 307–322. <u>https://doi.org/10.1016/j.jsp.2006.05.002</u>
- Dignath, C., Buettner, G., & Langfeldt, H.-P. (2008). How can primary school students learn self-regulated learning strategies most effectively?: A meta-analysis on self-regulation training programmes. *Educational Research Review*, *3*(2), 101–129. <u>https://doi.org/10.1016/j.edurev.2008.02.003</u>
- Drennan, J., & Hyde, A. (2008). Controlling response shift bias: The use of the retrospective pre-test design in the evaluation of a master's programme. *Assessment and Evaluation in Higher Education*, *33*(6), 699–709. <u>https://doi.org/10.1080/02602930701773026</u>
- Gaumer Erickson, A. S., Monroe, K., Soukup, J., & Noonan, P. M. (2018). Self-Regulation Formative Questionnaire. In P. M. Noonan & A. S. Gaumer Erickson, *The skills that matter: Teaching interpersonal and intrapersonal competencies in any classroom* (pp. 177–178). Corwin.
- Gaumer Erickson, A. S., & Noonan, P. M. (2018). Self-Regulation Performance-Based Observation. In Teaching self-regulation: 75 instructional activities to foster independent, proactive students, Grades 6– 12 (2022, p. 135). Solution Tree.
- Gaumer Erickson, A. S., & Noonan, P. M. (2022). Self-Regulation Performance-Based Reflection. In *Teaching self-regulation: 75 instructional activities to foster independent, proactive students, Grades 6–12* (p. 134). Solution Tree Press.
- Gaumer Erickson, A. S., Noonan, P. M., & Brussow, J. (2023). *Self-regulation as a predictor of GPA in high school* [Manuscript in preparation]. Center for Research on Learning, University of Kansas.
- Gaumer Erickson, A. S., Noonan, P. M., & Lantz, T. (2023a). Research guide (Grades pre-K-6): College and career competency: Self-regulation. College & Career Competency Framework. <u>https://www.cccframework.org/</u>
- Gaumer Erickson, A. S., Noonan, P. M., & Lantz, T. (2023b). *Research guide (Grades 7–12): College and career competency: Self-regulation.* College & Career Competency Framework. https://www.cccframework.org/
- Gaumer Erickson, A. S., Noonan, P. M., & Loewenstein, M. (2020). *Teaching self-regulation in middle and high school classrooms* (3rd ed.) [Teacher lessons and student workbook]. College & Career Competency Framework. <u>https://www.cccframework.org/competency-lessons-and-student-workbooks/</u>
- Gaumer Erickson, A. S., Noonan, P. M., Loewenstein, M., & Monroe, K. (2019). Self-Regulation Knowledge Test. In A. S. Gaumer Erickson & P. M. Noonan (2022), *Teaching self-regulation: 75 instructional* activities to foster independent, proactive students, Grades 6–12 (pp. 159–162). Solution Tree Press.
- Heger, E. S., Haught, T., Noonan, P. M., & Gaumer Erickson, A. S. (2022a). Self-Regulation Knowledge Test (3–6). In *Teaching self-regulation in elementary classrooms 3–6* (pp. 3–4) [Teacher lessons and student workbook]. College & Career Competency Framework. <u>https://www.cccframework.org/competencylessons-and-student-workbooks/</u>
- Heger, E. S., Haught, T., Noonan, P. M., & Gaumer Erickson, A. S. (2022b). Self-Regulation Questionnaire (K–2). In *Teaching self-regulation in elementary classrooms K–2* (pp. 2–3) [Teacher lessons and student workbook]. College & Career Competency Framework. <u>https://www.cccframework.org/competencylessons-and-student-workbooks/</u>
- Heger, E. S., Haught, T., Noonan, P. M., & Gaumer Erickson, A. S. (2022c) Self-Regulation Questionnaire (3– 6). In *Teaching self-regulation in elementary classrooms 3–6* (p. 3) [Teacher lessons and student workbook]. College & Career Competency Framework. <u>https://www.cccframework.org/competencylessons-and-student-workbooks/</u>
- Noonan, P. M., & Gaumer Erickson, A. S. (2018). *The skills that matter: Teaching interpersonal and intrapersonal competencies in any classroom*. Corwin.

Gaumer Erickson, A. S., & Noonan, P. M. (2023). *Self-regulation assessment suite: Technical report.* College & Career Competency Framework. <u>https://www.cccframework.org/</u>



- Nota, L., Soresi, S., & Zimmerman, B. J. (2004). Self-regulation and academic achievement and resilience: A longitudinal study. *International Journal of Educational Research*, *41*(3), 198–215. https://doi.org/10.1016/j.ijer.2005.07.001
- Pintrich, P. R., Smith, D. A. F., Garcia, T., & McKeachie, W. J. (1993). Reliability and predictive validity of the Motivated Strategies for Learning Questionnaire (MSLQ). *Educational and Psychological Measurement*, 53(3), 801–813. https://doi.org/10.1177/0013164493053003024
- Ursache, A., Blair, C., & Raver, C. C. (2012). The promotion of self-regulation as a means of enhancing school readiness and early achievement in children at risk for school failure. *Child Development Perspectives*, 6(2), 122–128. <u>https://doi.org/10.1111/j.1750-8606.2011.00209.x</u>
- Wehmeyer, M. L., & Kelchner, K. (1995). The Arc's self-determination scale. Arc National Headquarters.
- Zimmerman, B. J. (2008). Investigating self-regulation and motivation: Historical background, methodological developments, and future prospects. *American Educational Research Journal*, 45(1), 166–183. https://doi.org/10.3102/0002831207312909
- Zimmerman, B. J., & Martinez-Pons, M. (1988). Construct validation of a strategy model of student selfregulated learning. *Journal of Educational Psychology*, 80(3), 284–290. <u>https://doi.org/10.1037/0022-0663.80.3.284</u>
- Zimmerman, B. J., & Schunk, D. H. (Eds.). (2011). *Handbook of self-regulation of learning and performance*. Routledge.



Appendix A: Self-Regulation Formative Questionnaire Items

Self-Regulation Questionnaire (K–2). Each item is rated on a Likert-type scale with emojis representing *Like Me*, *Not Sure*, and *Not Like Me*.

- 1. When I have things to do, I know how to get started.
- 2. I think about the steps I need to take when learning something new.
- 3. When learning is hard, I keep trying.
- 4. I keep track of how close I am to meeting my goals.
- 5. I can calm myself when I have big feelings.
- 6. I learn from my mistakes.

Self-Regulation Questionnaire (3–6). Each item is rated on a Likert-type scale from 1 (*Not Very Like Me*) to 5 (*Very Like Me*). Items that are framed negatively, and therefore reverse scored, are designated with "(N)."

- 1. I plan out projects that I want to complete.
- 2. I finish my chores and schoolwork before I do something fun.
- 3. I know how much time I need to complete my schoolwork.
- 4. I have a plan for calming myself when I'm mad.
- 5. It is hard for me to get started on a big project or assignment. (N)
- 6. I keep track of how I'm doing in school.
- 7. I know when I'm behind on a project.
- 8. I often lose track of time. (N)
- 9. I have trouble remembering all the things I need to do.
- 10. I make choices to help me succeed, even when they aren't the most fun.
- 11. When something is hard, I try lots of ways to succeed.
- 12. When I'm mad, I try ways to calm myself down.
- 13. I have a hard time staying focused on my work. (N)
- 14. When I get behind or don't understand my work, I often give up. (N)
- 15. I think about how well I'm doing on my assignments.
- 16. I am proud of myself when I get everything done on time.
- 17. I think about how well I've done in the past when I set new goals.
- 18. When I fail at something, I try to learn from my mistakes.
- 19. I keep making the same mistakes over and over again. (N)

Self-Regulation Questionnaire (7–12). Each item is rated on a Likert-type scale from 1 (*Not Very Like Me*) to 5 (*Very Like Me*). Items that are framed negatively, and therefore reverse scored, are designated with "(N)." Items in green are included with the knowledge test but not when only the questionnaire is given.

- 1. I plan out projects that I want to complete. (Plan)
- 2. If an important test is coming up, I create a study plan. (Plan)
- 3. Before I do something fun, I consider all the things that I need to get done. (Plan)
- 4. I can usually estimate how much time my homework will take to complete. (Plan)
- 5. It is hard for me to get started on a big assignment. (Plan; N)
- 6. I have trouble making plans to help me reach my goals. (Plan; N)
- 7. I keep track of how my projects are going. (Monitor)
- 8. I know when I'm behind on a project. (Monitor)
- 9. I track my progress for reaching my goal. (Monitor)
- 10. I know what my grades are at any given time. (Monitor)
- 11. Daily, I identify things I need to get done and track what gets done. (Monitor)
- 12. I often lose track of time. (Monitor; N)
- 13. I have trouble remembering all the things I need to accomplish. (Monitor; N)



- 14. I do what it takes to get my homework done on time. (Adjust)
- 15. I make choices to help me succeed, even when they aren't the most fun right now. (Adjust)
- 16. As soon as I see things aren't going right, I want to do something about it. (Adjust)
- 17. I keep trying as many different possibilities as necessary to succeed. (Adjust)
- 18. When I want something expensive, I cut down on buying small things to save money for it. (Adjust)
- 19. My friends can talk me into things that I later regret. (Adjust; N)
- 20. I have difficulty maintaining my focus on projects that take a long time to complete. (Adjust; N)
- 21. When I get behind on my work, I often give up. (Adjust; N)
- 22. I think about how well I'm doing on my assignments. (Reflect)
- 23. I feel a sense of accomplishment when I get everything done on time. (Reflect)
- 24. I think about how well I've done in the past when I set new goals. (Reflect)
- 25. When I'm criticized, I consider what I could have done differently. (Reflect)
- 26. When I fail at something, I try to learn from my mistake. (Reflect)
- 27. When I've been struggling with something, I don't want to think about it. (Reflect; N)
- 28. I keep making the same mistake over and over again. (Reflect; N)



Appendix B: Self-Regulation Knowledge Test Items

Self-Regulation Knowledge Test (3–6). Each item is scored as correct or incorrect, and summary reports are automatically generated through <u>https://www.cccstudent.org/</u>.

- 1. Choose the best description of self-regulation.
 - a. When you plan for how to reach a goal, learn a skill, or accomplish a task
 - b. When you plan, monitor, adjust, and reflect to reach a goal, learn a skill, or accomplish a task
 - c. When you follow your teacher's detailed directions for reaching a goal, learning a skill, or accomplishing a task
 - d. When you make progress toward reaching a goal, learning a skill, or accomplishing a task

Decide if each of the scenarios describes at least one component of self-regulation.

| | Scenario | Is it a self- regulation component? |
|----|---|---|
| 2. | After school, your parent takes your tablet and says you'll get it back when your homework is done. | Yes No |
| 3. | When you are feeling angry, you take a few deep breaths to calm down. | Yes No |
| 4. | You write down the homework that you need to complete and check it off your list as you finish it. | Yes No |
| 5. | You were working on your math problem and got stuck. You wanted to ask your mom for help, but she was gone, so you left the answer blank. | Yes No |

Identify which self-regulation component (plan, monitor, adjust, reflect) each behavior addresses.

| Behavior | | Component | | | |
|---|------|-----------|--------|---------|--|
| 6. Making a to-do list. | Plan | Monitor | Adjust | Reflect | |
| 7. Crossing off items on your to-do list as you finish them. | Plan | Monitor | Adjust | Reflect | |
| 8. Thinking each day about what went well, what was hard, and specific things you've learned. | Plan | Monitor | Adjust | Reflect | |
| 9. Breaking down big goals into smaller pieces. | Plan | Monitor | Adjust | Reflect | |
| 10. After encountering a problem, looking for solutions and trying as many things as needed until you solve your problem. | Plan | Monitor | Adjust | Reflect | |

11. Which of these would you NOT use to monitor progress on your self-regulation plan?

- a. A graph showing your progress over time
- b. A journal where you describe daily progress and identify if you are on track with your plan
- c. A rubric to compare with your work to see if you are doing your best work
- d. A comparison of your progress to your friend's progress on the same project/assignment

True or False

- 12. ____ Self-regulation is important for school, but it doesn't really help improve athletic or musical ability.
- 13. <u>Using self-regulation can help you resist distractions</u>.
- 14. ____ Most kids are good at self-regulation and don't need to work on it.

Open Ended

15. Imagine that you are struggling to learn a skill in math. How could you self-regulate to improve your learning?



Self-Regulation Knowledge Test (7–12). Each item is scored as correct or incorrect, and summary reports are automatically generated through <u>https://www.cccstudent.org/</u>.

- 1. Choose the best description of self-regulation.
 - a. When you make progress toward reaching a goal, learning a skill, or accomplishing a task
 - b. When you follow your teacher's detailed directions (including making changes as suggested by your teacher and reflecting on your progress) for reaching a goal, learning a skill, or accomplishing a task
 - c. When you proactively use a process (e.g., planning, monitoring the plan, making changes as needed, and reflecting) to reach a goal, learn a skill, or accomplish a task
 - d. When you proactively plan for how to reach a goal, learn a skill, or accomplish a task

Decide if each of the scenarios describes at least one component of self-regulation.

| | Scenario | Is it self-regulation? |
|----|--|------------------------|
| 2. | After school, your parent takes your phone and says you'll get it back when your homework is done. | Yes No |
| 3. | You want to improve your grade in English, so you check your grade every Friday to see if it has gotten better. | Yes No |
| 4. | You write down the homework that you need to complete and check it off your list as you finish it, making sure to finish each assignment. | Yes No |
| 5. | You were working on your math assignment and came to a problem that you didn't know how to solve. You texted your friend for help, but he hasn't responded, so you leave the answer blank. | Yes No |

Multiple Choice

- 6. Which of these things is NOT likely to be a result of improving your self-regulation?
 - a. Improved time management and organization
 - b. Increased ability to reach goals without encountering any barriers
 - c. Increased ability to recognize and address your own mistakes
 - d. Increased control of your learning and academic success
- 7. Identify the best example of using the self-regulation process to address problems with being late to school.
 - a. Deciding that now that you're aware of the issue, you won't have trouble tomorrow—you know you just need to get up with the alarm, instead of hitting snooze or turning it off; then you won't be late
 - b. Considering possible reasons for your tardiness (e.g., staying up too late, not gathering supplies until morning) and making a plan to address those things, including how to see if you're making progress
 - c. Setting an extra alarm tomorrow to make it more likely that you will get up on time; that should eliminate the problem
 - d. Telling a parent/guardian about the problem and asking for help to get you to school on time

Identify which self-regulation component (plan, monitor, make changes, reflect) each behavior addresses.

| Behavior | | Component | | | |
|--|------|-----------|--------------|---------|--|
| 8. Each day, crossing tasks off a to-do list as you finish them. | Plan | Monitor | Make Changes | Reflect | |
| 9. Recognizing when something isn't working and immediately adjusting your actions to get back on track. | Plan | Monitor | Make Changes | Reflect | |
| 10. Thinking each day about successes, setbacks, and specific things you've learned. | Plan | Monitor | Make Changes | Reflect | |
| 11. Breaking down big goals into smaller pieces. | Plan | Monitor | Make Changes | Reflect | |
| 12. After encountering setbacks, looking for solutions and trying as many as needed. | Plan | Monitor | Make Changes | Reflect | |
| 13. Thinking about your past efforts when setting new goals. | Plan | Monitor | Make Changes | Reflect | |
| 14. Using specific ways to track your progress. | | Monitor | Make Changes | Reflect | |

Gaumer Erickson, A. S., & Noonan, P. M. (2023). *Self-regulation assessment suite: Technical report*. College & Career Competency Framework. https://www.cccframework.org/



- 15. Which of these actions does not specifically address a self-regulation component?
 - a. Having specific methods in mind for how you will measure your progress as you work towards a goal
 - b. Knowing when you are behind on a task and figuring out the best steps to take to get back on track
 - c. Checking your grades every week to see how teachers have graded your performance on assignments, projects, and tests
 - d. Creating a study plan for important tests or a timeline of tasks/steps for long-term projects
- 16. Which of these would you NOT use to monitor progress on your self-regulation plan?
 - a. A comparison of your progress to your friend's progress on the same project/assignment
 - b. A rubric to compare with your work to see if you are meeting the criteria
 - c. A journal where you describe daily progress and identify if you are on track with on your plan
 - d. A graph showing your progress over time
- 17. You are told to write an essay, due in 3 weeks. The last time you had a task like this, you didn't write it until the night before. Your grade wasn't very good, and you want to do better. Using what you've learned, choose the **best option**.
 - a. Break the assignment down into the basic parts (e.g., choose a topic, outline the essay, write the essay, etc.), and estimate how much time each part takes. Work backwards to identify deadlines for each part. Afterward, reflect on the quality of your work.
 - b. Talk about the project with your friend Beth, who is great at planning how to space out work. Ask her what her timeline is for accomplishing the project, and make that your timeline, too. After you finish, reflect on how well you did.
 - c. See your teacher to discuss your difficulties with this type of assignment and ask what you should do differently this time. Follow the teacher's plan and timeline to complete each part of the assignment, getting back on track when necessary.
 - d. Break the assignment down into the basic parts and make a plan for each part. Note specific tasks and their deadlines. Check off tasks as completed. If behind, figure out how to get back on track. During and after, consider what works and what could be improved.

True or False

- 18. ____ Self-regulation is important for academics, but it doesn't really help improve athletic or musical ability.
- 19. Building your self-regulation skills can also help improve your goal setting abilities.
- 20. Using self-regulation can help you resist distractions.

Open Ended

- 21. Imagine that you are struggling to learn a concept in math. Provide brief descriptions of how you would address the first two components of self-regulation to work towards improving your learning.
 - Plan:
 - Monitor:



Appendix C: Self-Regulation Performance-Based Observation Items

Based on observations across time or in specific situations, the educator rates each student's self-regulatory behaviors on a 4-point scale. Summary reports are automatically generated through https://www.cccstudent.org/.

| Ba | Based on observations across time or in specific situations, evaluate each student's performance. | | | | | |
|-----|---|----------------|-----------------|----------------|---------------|----------|
| | Beginning: Not yet able to demor | strate withou | t scaffolding | • | | |
| | Emerging: Minimal or superficial demonstration; prompting likely required. | | | | | |
| | Proficient: Sufficient demonstration, including self-appraisal and detailed, personalized | | | | | |
| | application. | | | | | |
| | Advanced: Independent and const | istent demons | stration; teacl | nes/prompts of | others. | |
| | Not observed: Documented if the | re has not bee | en the opport | unity to obse | rve the behav | vior |
| | performed by an individual st | udent. | | | | |
| Se | If-Regulation Sequence | Beginning | Emerging | Proficient | Advanced | Not |
| Inc | dicators | | | | | Observed |
| 1. | Visualizes successes and | | | | | |
| | challenges for completing a task | | | | | |
| | and can explain their path to | | | | | |
| | success (Strategy 1, <i>imagine</i> | | | | | |
| | the path to my success). | | | | | |
| 2. | Demonstrates the ability to | | | | | |
| | break down a task or project by | | | | | |
| | creating action steps (Strategy | | | | | |
| | 2, break it down). | | | | | |
| 3. | Predicts obstacles while | | | | | |
| | working toward a goal and | | | | | |
| | identifies ways to manage the | | | | | |
| | obstacles (Strategy 4, predict | | | | | |
| | obstacles; Strategy 7, | | | | | |
| | brainstorm my options; | | | | | |
| | Strategy 8, <i>choose my</i> | | | | | |
| | response). | | | | | |
| 4. | Uses techniques for managing | | | | | |
| | big feelings while engaged in | | | | | |
| | challenging learning (Strategy | | | | | |
| | 3, manage big feelings). | | | | | |
| 5. | Tracks effort and progress over | | | | | |
| | time (Strategy 5, track my | | | | | |
| | effort; Strategy 6, track my | | | | | |
| | progress). | | | | | |
| 6. | Reflects on how to improve | | | | | |
| | self-regulation practices by | | | | | |
| | identifying specific strategies | | | | | |
| | that are their areas of strength | | | | | |
| | and challenge (Strategy 10, | | | | | |
| | regulate even better). | | | | | |



Appendix D: Self-Regulation Performance-Based Reflection Items

For specific projects, assignments, or preparation (e.g., studying for a test, enhancing performance in a sport), students reflect on their self-regulatory behaviors by rating their performance on a 3-point scale. This assessment can be used at purposeful intervals to monitor each student's performance and growth.

| Component | Limited Self-Regulation | Moderate Self- | Substantial/Thoughtful |
|------------|---|--|---|
| | | Regulation | Self-Regulation |
| Planning | I didn't do much planning. I may have thought about it a little. | I thought about what I needed to do to accomplish this. I may have written down a little. | I planned this out with the details I needed to accomplish it. I thought about my past efforts to make a plan that would work well for me. |
| Monitoring | I didn't do much to track my progress. I may have thought about it a little. | Occasionally, I thought about my progress to accomplish the task and the effort I put into it. Other people may have reminded me to monitor my progress. | I monitored along the way, making sure I was on track to accomplish it and thinking through the effort I put into it. |
| Adjusting | I didn't really adjust my plan even when I should have. | I thought through some of the things that were getting in my way when I got off track. | I adjusted as needed to stay on track or modified my plan to accomplish this. I thought about what was getting in my way when I got off track and made changes. |
| Reflecting | I didn't reflect throughout the process. I may have reflected a little at the end. | Occasionally, I reflected on my effort and my progress. I may have reflected on my learning. | I reflected throughout the process on my effort, my progress, and my learning. |

For the task of _____, rate your self-regulation.