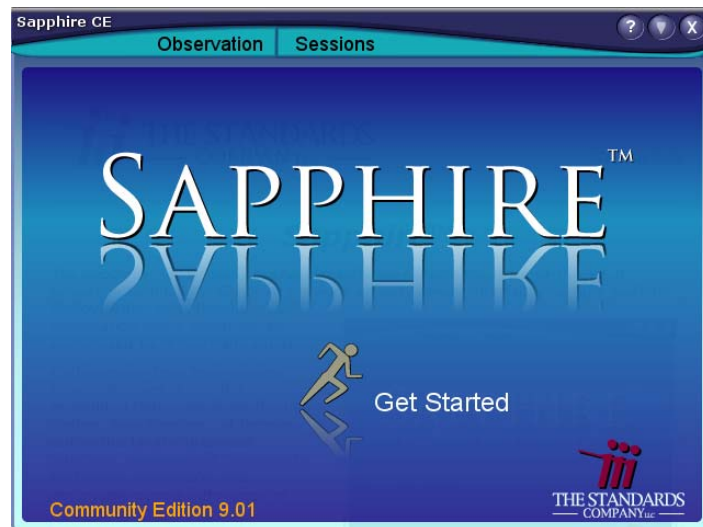


Sapphire™

The *Sapphire*™ classroom observation software reflects the state-of-the-art in education technology. *Sapphire* provides an easy-to-use interface, multiple platform deployments, and interchangeable observation forms which can be customized to fit most any situation.

Cutting-edge Java technologies power *Sapphire*. From the embedded Derby database through custom Java libraries, all the way out to the JavaFX graphical interface, we designed *Sapphire* to be flexible, extensible, and deployable over a wide range of user environments.

Unlike traditional rubrics, *Sapphire* can accurately time instructional processes to the level of seconds and efficiently categorize timing results according to myriad criteria. Its ability to incorporate the difficult issue of partial engagement relatively effortlessly is unique in the industry.



VERSIONS

Community Edition (CE)

To enable educators and education researchers the ability to time classroom sessions, The Standards Company LLC created *Sapphire* Community Edition (CE). This version is free.

Professional Version

(public release scheduled for Fall 2009)

Sapphire Professional extends the capabilities of *Sapphire* CE to include:

- Measurements of questioning strategies
- Measurements of communication (English learner) strategies
- Measures of cognitive strategies
- Unlimited observation sessions
- Plug-in observation forms
- increased reporting options
- On-line data storage

Enterprise Version

(public release scheduled for Spring 2010)

Sapphire Enterprise extends the capabilities of *Sapphire* Professional to include:

- Multiple-user management
- Coalescing of multiple-user data sets
- Data synchronization between users and a central database
- Custom reporting tools

INSTALLATION

Sapphire is available for download from The Standards Company LLC web site at <http://sapphire.standardsco.com>.

1. Click on **Launch**.
2. Once the application has loaded, press the **Get Started** button.
3. Register the application with a valid email and zip or postal code.

PROCEDURE

Creating the session

Before timing a classroom session, the user needs to create a session to file the data.

1. Create a new session by pressing the + button (labeled “A” in the figure)
2. Fill in the text fields in “Active Session Profile” with the appropriate information.
3. Press the **Save** button to save the session (labeled “B” in the figure).

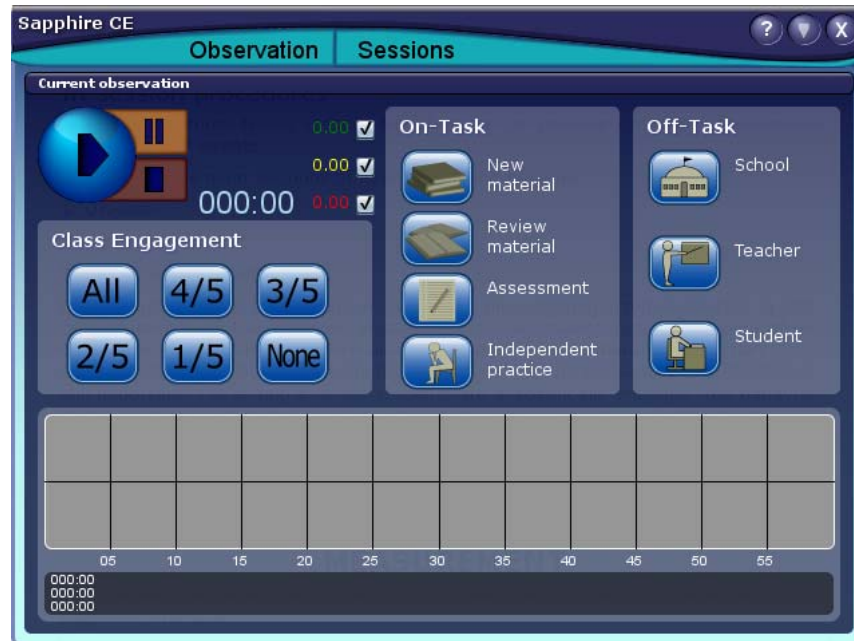
At this point, you will have created and saved a new session. The session appears in the upper left portion of the screen.

4. To advance to the Observation screen, select **Start the Observation Session** at the bottom portion of the screen.



Timing the session

1. To begin timing, press the blue **Start** button on the upper left portion of the screen.
2. To pause the timing session, press the yellow **Pause** button.
3. To end the timing session, press the red **Stop** button. (Note: Pressing the **Stop** button completely terminates the timing session—do not press **Stop** until the designated observation period ends.)



In-session procedures

During a classroom timing session, the observer can press any number of buttons to time important events.

There are three main sections of event-capturing buttons.

1. On-task
2. Off-task
3. Partial class engagement

For the first two items listed above, classroom time is categorized as on-task or off-task depending on the academic engagement of the *student*, not the behavior of the teacher. However, since *Sapphire* also measures the preponderance of certain activities that contribute to the on-task/off-task time, the behavior of the teacher is still important. For example, when students are academically engaged, the behavior of the teacher could signal the observer whether the students are learning new material or simply performing independent work.

As for the third item listed above, the partial engagement section provides the observer the means to weight the engagement according to the fraction of the class that is academically engaged.

MEASUREMENT

The following describes the usage associated with the buttons located on the *Sapphire* interface.

On-Task

When students are academically engaged, they are usually participating in activities dictated by the teacher. *Sapphire* allows observers to measure the preponderance of each activity students experience throughout the day.

Categories

There are four major categories of on-task activities.

New material

Definition

Time devoted to the teaching of new material, either by direct instruction or inquiry.

Examples

- Direct instruction lessons featuring new material taught by the teacher.
- Inquiry lessons guided by the teacher and designed for students to learn new material.

Review material

Definition

Time devoted to reviewing content originally taught previously.

Examples

- Homework review sessions (if guided by the teacher).
- Review of solutions to prior assessments.

Non-examples

- Unguided homework sessions (constitute Independent Work).
- Unguided completion of worksheets (constitutes Independent Work).



Independent Work

Definition

Time in which students complete activities with little or no guidance.

Examples

- Homework completion.
- Worksheet completion.
- Independent activities (constitutes New material if the activity is highly structured to teach new material via inquiry).

Assessment

Definition

Time during which students complete assessments.

Examples

- Quizzes.
- Tests.

Off-Task

To measure off-task behavior, we analyze the engagement levels of the students, not the teachers. We would disregard events that do not interrupt the academic engagement of the students. For example, office personnel entering a classroom can initiate off-task behavior, but only if they interrupt the concentration or engagement of the students.

Categories

School-Centered

Definition

Time denoted off-task due to interruptions beyond the control of the teacher or students.

Examples

- Public address system announcements.
- Assemblies and pep rallies.
- Interruptions due to outside personnel entering the classroom.
- Interruptions due to pull-out of students.

Teacher-Centered

Definition

Time denoted off-task due to teachers' policies or directives.

Examples

- Transition time between activities.
- Transition time after the first bell rings.
- Transition time before the final bell rings.
- Taking roll.
- Administrative tasks.
- Distributing handouts.
- Off-topic discussion.



Student-Centered

Definition

Time denoted off-task due to student disengagement or misbehavior.

Examples

- Student misbehavior.
- Daydreaming.
- Note-passing.
- Putting books away before the teacher says to do so.

Partial Class Engagement

Sapphire measures class engagement by dividing the classroom population into fifths. Each button in the Class Engagement section corresponds to that portion of the class that is *academically engaged*.

As an example, if the observer notes that five students in a class of 25 are talking off-topic during a lesson, he or she would press the button **4/5** since four-fifths of the class is academically engaged.

Note: The "None" button is preselected by the software at the beginning of a classroom observation.

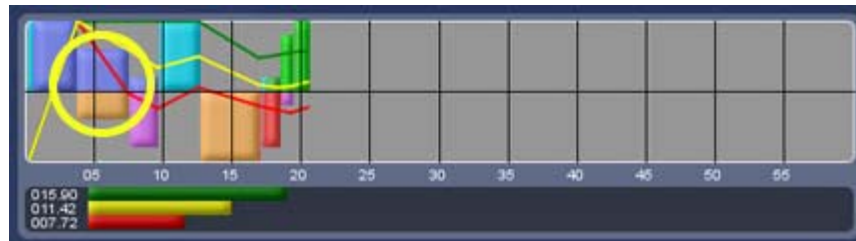


For further information on the issue of partial engagement and its measurement, see Walkup, J. R., D. Farbman, and K. McGaugh, Bell to bell: Measuring time usage in the classroom. Submitted to *Journal of Educational Measurement*.

DISPLAY

The *Sapphire* timeline contains a wealth of information on the academic environment of a classroom in a clear visual display.

As its timer runs, *Sapphire* sweeps colored segments across the timeline display. Blue and green sections above the horizontal separation bar indicate the students are academically engaged. On the other hand, the segments below the horizontal bar correspond to disengaged students.



Sapphire illustrates partial engagement by displaying portions of the segments above and below the horizontal bar. For example, the circled region indicates that, from the period four minutes to seven minutes after the start of the observation, four-fifths of the class was academically engaged, the remainder was disengaged.

Attentive engagement index

The green index line corresponds to the percentage of time the most attentive students in class are academically engaged. The total time this group has been academically engaged is indicated by the green bar and numerical display at the bottom.

Non-attentive engagement index

The red line, on the other hand, charts the percentage of time the most non-attentive students are academically engaged; the total time this group has been academically engaged is indicated by the red bar and numerical display at the bottom.

Effective engagement index

The effective index, indicated in yellow, weights the academic engagement time according to the fraction of students academically engaged at any one time. The effective engagement index provides a singular value for describing time usage in classrooms.

For further information on interpreting the three engagement indices, see Walkup, J., D. Farbman, and K. McGaugh, Bell to bell: Measuring time usage in the classroom. Submitted to *Journal of Educational Measurement*.

TRAINING

The Standards Company LLC can provide training for administrators and teachers on the use of *Sapphire* and the techniques teachers can use to increase *Sapphire* scores.

Most training sessions last two to three hours and are designed to fit within the confines of the traditional early-release day. The Standards Company LLC provides all handouts and projection technology.

Call (888) 777-1417 for more information.

OBSERVATION

The Standards Company LLC employs professional classroom observers that can measure the academic environment of a school or district. Reports can include any of the following.

- Academic engagement.
- Questioning strategies.
- Communication (English learner strategies).
- Cognitive strategies.
- Custom observations also available.

Teachers are not expected to veer from their regular behaviors. Administrators and coaches are welcome to join the observations.

Call (888) 777-1417 for more information.