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STIC: Student-Teacher Interaction Code

A classroom observation app that compares a student of concern with classroom peers, in 30-second intervals, to identify performance discrepancies

Target vs. peer comparison

Behaviors		Measure	Target	Target rate / min	Peer	Peer rate / min	Difference	Discrepancy ratio
E	Engaged	% of intervals	**45%**		**80%**		-35 pts	1.8
OP	Out of Place	Frequency · rate	**14**	0.70	**1**	0.05	+13 (+0.65/min)	**14.0**
GD	Teacher Group Direction	Frequency · rate	**22**	1.10	**23**	1.15	-1 (-0.05/min)	1.0
ID	Teacher Individual Direction	Frequency · rate	**23**	1.15	**5**	0.25	+18 (+0.90/min)	**4.6**
TGQ	Teacher Group Question	Frequency · rate	**8**	0.40	**7**	0.35	+1 (+0.05/min)	1.1
TIQ	Teacher Individual Question	Frequency · rate	**6**	0.30	**2**	0.10	+4 (+0.20/min)	**3.0**
SAT	Student Academic Talk	Frequency · rate	**0**	0.00	**6**	0.30	-6 (-0.30/min)	0.0
STI	Student-Teacher Non-Academic	Frequency · rate	**8**	0.40	**1**	0.05	+7 (+0.35/min)	**8.0**
PI	Peer Interaction	Frequency · rate	**17**	0.85	**13**	0.65	+4 (+0.20/min)	1.3
PC	Physical Contact	Frequency · rate	**4**	0.20	**2**	0.10	+2 (+0.10/min)	**2.0**

Discrepancy ratio = target ÷ peer frequency count (the same as target ÷ peer rate, because both were observed for the same time). For Engaged (% of intervals), the ratio is shown as peer ÷ target so that values above 1.0 always indicate the target student's behavior differs from the peer's in the problem direction.

Simulated example: Jordan (simulated), Grade 3, 40 intervals (20 minutes) of whole-group reading instruction.

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> **Watch the demo.** A narrated demonstration movie (about 2½ minutes) on the product page shows the free trial, live coding of two intervals, and the summary table, discrepancy ratios, graphs and exports for Jordan (simulated).

All students, schools and observation data in this manual are simulated. © 2026 Mark R. Shinn, Ph.D., Data-Based Consulting, Inc. This manual may be downloaded, printed and shared free of charge.

1. About the STIC

The Student-Teacher Interaction Code (STIC) helps educators compare a student of concern's critical classroom behaviors with those of classroom peers, to identify potential **performance discrepancies**. Rather than looking at the student in isolation, the STIC takes an **ecological perspective**: it records the student's behavior together with the interactions around it, between the teacher and the student and between the student and peers.

Placing the student's results next to peers in the same classroom, with the same teacher and activity, shows whether a behavior is truly discrepant. That validates (or does not validate) the problem before intervention planning begins.

Each 30-second interval has two parts



Figure 1. First 10 seconds: Engagement only. Remaining 20 seconds: critical behavior interactions only.

- **0–10 seconds: Engagement ONLY.** Engaged (E) is judged once per interval (engaged for about 7 of the 10 seconds) and reported as the percent of intervals engaged.
- **10–30 seconds: critical behavior interactions ONLY.** Out of Place, teacher directions and questions, student talk, peer interaction and physical contact. Each can be marked up to three times per interval and is reported as a **frequency count and rate per minute**.

In every interval you code both the **target student** and a **comparison peer**, either one selected peer or a composite of rotating peers. The code is easy to learn, reliable and needs few materials; observers show little decay over a 20–30 minute observation.

2. Getting Started: Free Trial, License and Install

Open stic.markshinn.org in Chrome, Edge, Safari or Firefox on a computer, iPad, iPhone or Android device. The first screen offers three choices.

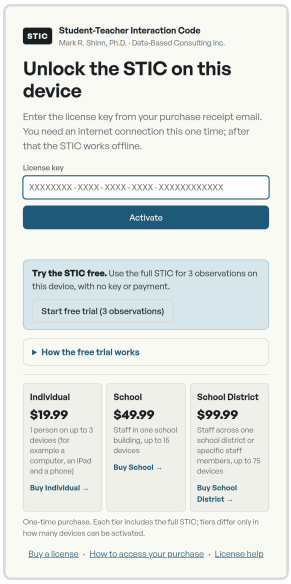


Figure 2. The unlock screen: license key, free trial and license tiers.

Free trial

Choose **Start free trial (3 observations)**. You get the full STIC for three observations on that device, with no account, key or payment. An observation counts when you record its first code or start the timer; going back to edit the same observation does not use another one. After three, you can still open, view, print and export saved observations.

Buy a license

A one-time purchase. Every tier includes the full STIC; tiers differ only in how many devices can be activated:

Tier	Price	Devices
Individual	$19.99	3
School	$49.99	15
School District	$99.99	75

Activate a license

1. Copy the license key from your purchase receipt email.
2. Paste it into **License key** and choose **Activate**. You need an internet connection this one time; after that the STIC works offline. Your trial observations are kept.
3. Moving to a new device? Open **Data → License and devices** and choose **Remove this device** to free it, then enter the same key on the new device.

Install on the device

- **Computer (Chrome or Edge):** Data → Install on this device, or the install icon in the address bar. On a Mac in Safari, File → Add to Dock.
- **iPad or iPhone:** in Safari, tap Share → Add to Home Screen, then open the STIC from the home screen and start the trial or enter your key there.
- **Android:** in Chrome, choose Install app.

3. The Codes

Full definitions, examples and non-examples are on the app's **Definitions** tab (Figure 3). Marks are **/** (engaged, or each Out of Place occurrence), **+** (positive, correct or complies) and **–** (negative, incorrect or does not comply).

Code	Behavior	When	Marks
E	Engaged: attending to instructional materials or tasks for about 7 of the 10 seconds	0–10 s	/ once per interval
OP	Out of Place: away from the assigned place in the classroom	10–30 s	/ up to 3
GD	Teacher Group Direction (task management to class or group)	10–30 s	+ complies / – doesn't comply
ID	Teacher Individual Direction to the observed student	10–30 s	+ complies / – doesn't comply
TGQ	Teacher Group Question (academic, to class or group)	10–30 s	+ correct / – incorrect
TIQ	Teacher Individual Question to the observed student	10–30 s	+ correct / – incorrect
SAT	Student Academic Talk with the teacher	10–30 s	+ / –
STI	Student-Teacher Non-Academic talk	10–30 s	+ / –
PI	Peer Interaction: speaking with a peer	10–30 s	+ / –
PC	Physical Contact: touching a peer with hands, feet or body	10–30 s	+ / –

Every 10–30 s code can be marked up to 3 times per interval.

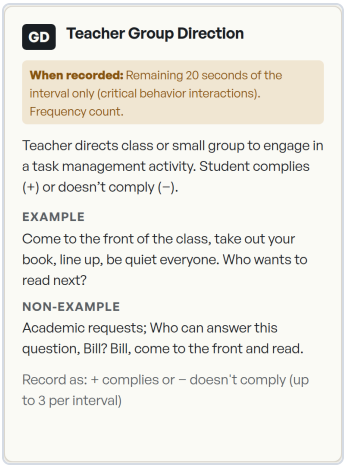


Figure 3. A Definitions card: when it is recorded, the definition, an example, a non-example and how to mark it.

4. Observation Details

Choose **Observe**. The Observation details card records who, where and when. It collapses to a one-line summary once you start coding; click it to reopen.

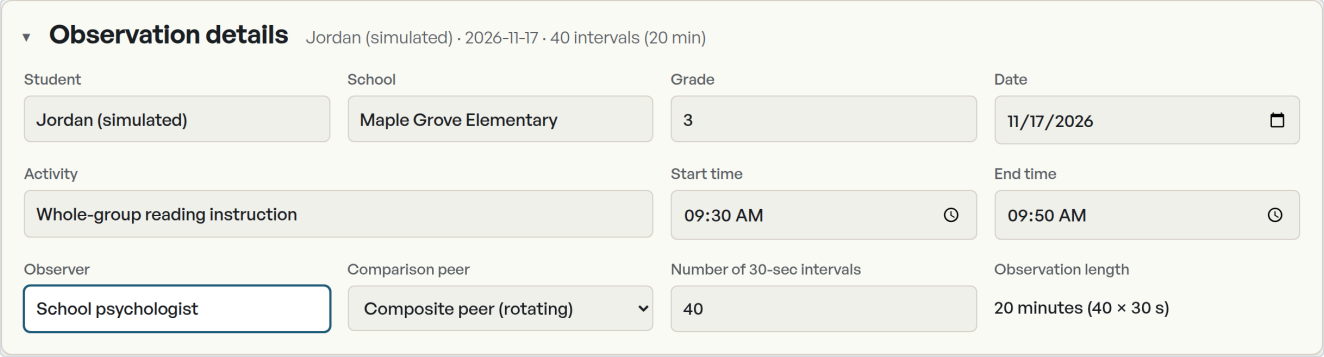


Figure 4. Observation details for Jordan (simulated): Grade 3, whole-group reading, composite peer, 40 intervals.

Student, School, Grade	Identify the target student. Use initials or an ID if your district prefers.
Date, Start and End time, Activity	Describe the instructional setting, for example "Whole-group reading instruction".
Observer	Who collected the data.
Comparison peer	**Selected peer** (one typical classmate) or **Composite peer (rotating)**, a different typical classmate each interval.
Number of 30-sec intervals	2 to 120. Observation length is shown next to it: 40 intervals = 20 minutes.

> **Choosing an activity.** Observe during the setting where the concern occurs, and compare with peers in that same setting. A discrepancy in independent seatwork may not appear in small-group instruction, and that difference is useful information too.

5. Coding with the Interval Timer



Figure 5. The interval timer at 15 seconds: the 10–30 s part of interval 1 is active.

1. Choose **Start timer**. The phase bar shows which part of the interval you are in. With **Audio cue at 0 s and 10 s** checked, a tone marks the start of each part.
2. **0–10 s:** mark **E** for the target and/or the peer if they are engaged. E is only available in this part.
3. **10–30 s:** press **/**, **+** or **–** beside each behavior as it happens, up to three times each. A mark appears in the slots; tap a filled slot to remove it.
4. With **Auto-advance every 30 s** checked, the next interval starts automatically. Use **Pause**, **‹ Prev**, **Next ›** and **Reset timer** as needed.

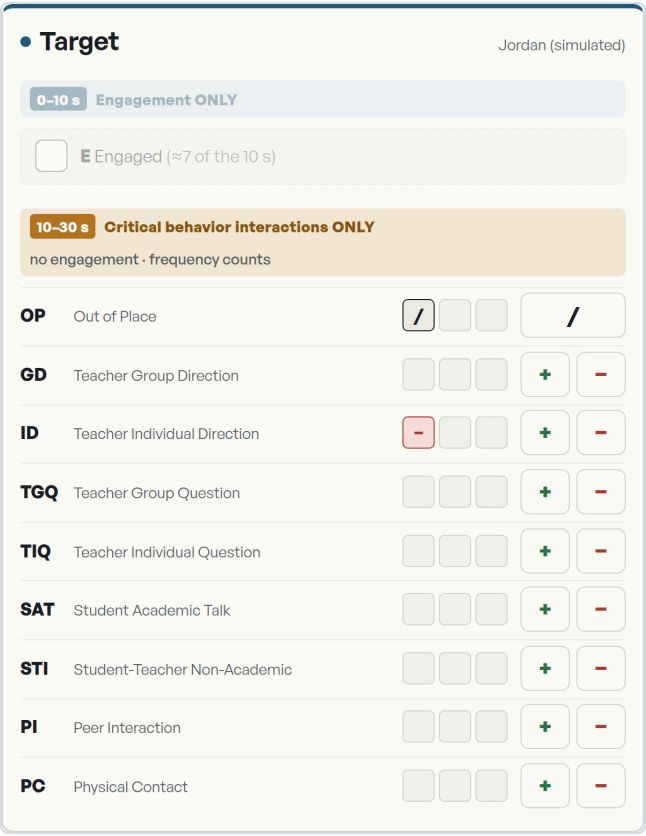


Figure 6. Target column: Jordan out of place (/) and did not comply with an individual direction (–).

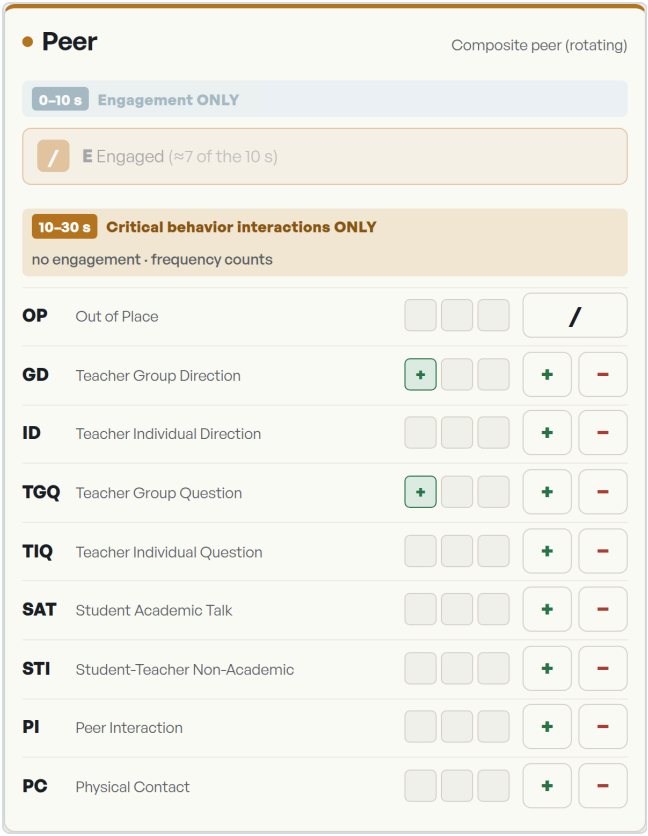


Figure 7. Peer column: engaged, complied with a group direction (+), answered a group question correctly (+).

On a phone, the target and peer columns are shown one at a time; use the Target / Peer switch above them.

5. Coding with the Interval Timer (continued)

All intervals and running totals

The **All intervals** strip below the coding columns shows every interval: a blue bar when the target was engaged, an orange bar when the peer was engaged, and a dot when interactions were coded. Click any interval to go back and correct it. **Running totals** update as you code.

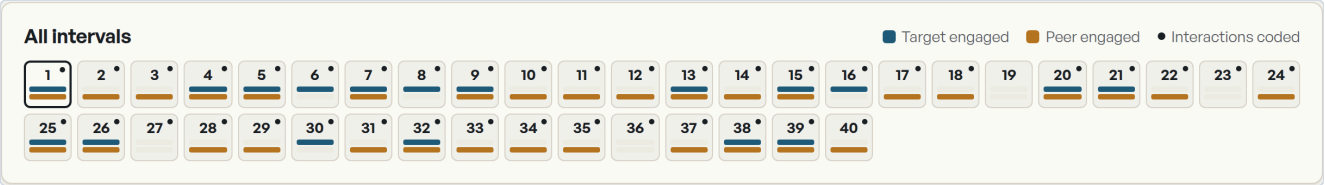


Figure 8. All 40 intervals of Jordan's observation (simulated).

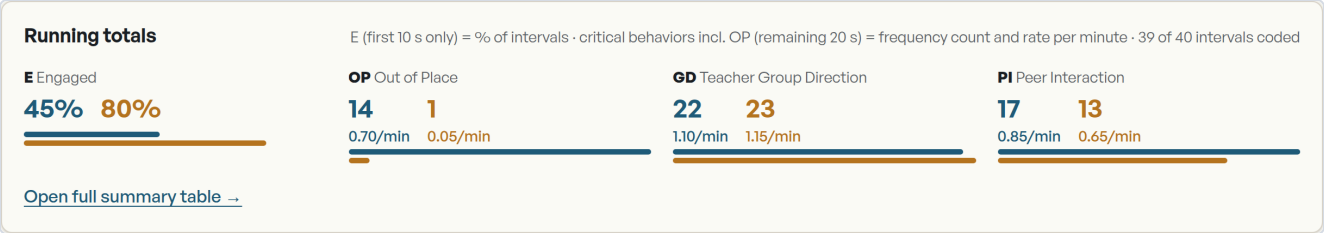


Figure 9. Running totals: Engaged, Out of Place, Teacher Group Direction and Peer Interaction.

> **Your work is saved automatically** on the device after every mark. Closing the browser does not lose the observation. To keep a permanent copy or move it to another device, save an observation file (Section 9).

6. The Summary Table

The Summary table tab starts with the report heading (student, school, grade, date, activity, observer, comparison peer and intervals observed), then reports every behavior for the target and the peer.



Summary table — Export CSV

Behaviors	Target	Peers	Teacher	Target: Frequency	Target: Total obs.	Target: % intervals (E)	Target: Rate / min	Peer: Frequency	Peer: Total obs.	Peer: % intervals (E)	Peer: Rate / min
E Engaged total	18	32		18	40	45%		32	40	80%	
OP Out of Place total	14	1		14	40		0.70	1	40		0.05
GD Teacher Group Direction total	22	23	45	22	40		1.10	23	40		1.15
+ Complies	12	19					55% of GD				83% of GD
− Doesn't comply	10	4					45% of GD				17% of GD
ID Teacher Individual Direction total	23	5	28	23	40		1.15	5	40		0.25
+ Complies	8	4					35% of ID				80% of ID
− Doesn't comply	15	1					65% of ID				20% of ID
TGQ Teacher Group Question total	8	7	15	8	40		0.40	7	40		0.35
+ Correct	6	7					75% of TGQ				100% of TGQ
− Incorrect	2	0					25% of TGQ				0% of TGQ
TIQ Teacher Individual Question total	6	2	8	6	40		0.30	2	40		0.10
+ Correct	5	2					83% of TIQ				100% of TIQ
− Incorrect	1	0					17% of TIQ				0% of TIQ
SAT Student Academic Talk total	0	6		0	40		0.00	6	40		0.30
+ Positive	0	6									100% of SAT
− Negative	0	0									0% of SAT
STI Student-Teacher Non-Academic total	8	1		8	40		0.40	1	40		0.05
+ Positive	3	1					38% of STI				100% of STI
− Negative	5	0					63% of STI				0% of STI
PI Peer Interaction total	17	13		17	40		0.85	13	40		0.65
+ Positive	7	8					41% of PI				62% of PI
− Negative	10	5					59% of PI				38% of PI
PC Physical Contact total	4	2		4	40		0.20	2	40		0.10
+ Positive	1	1					25% of PC				50% of PC
− Negative	3	1					75% of PC				50% of PC

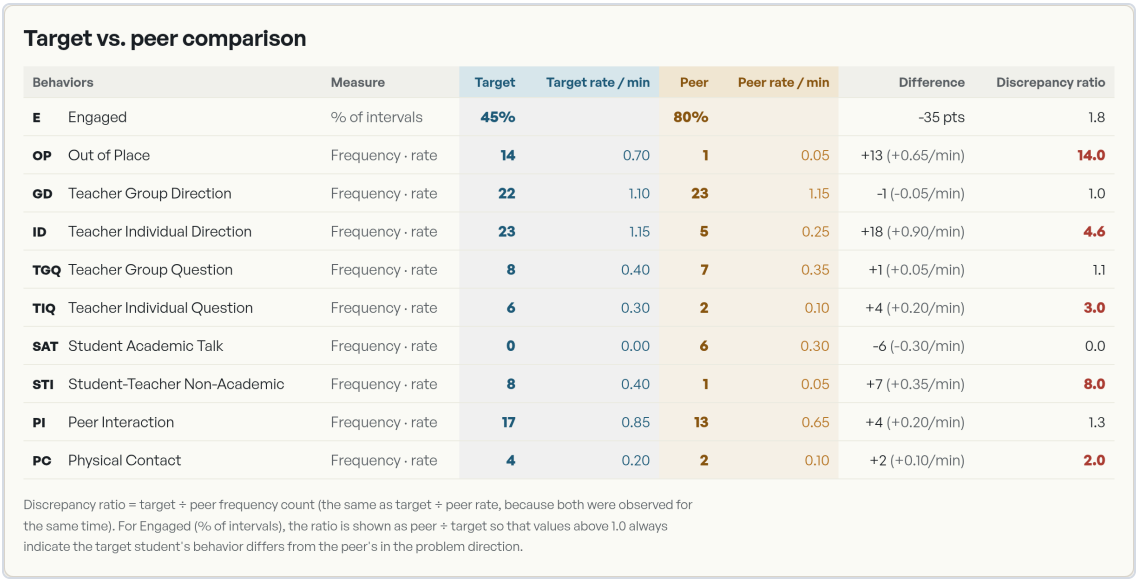
Engaged (E) is collected only in the first 10 seconds of each interval and reported as % of intervals = intervals engaged ÷ total intervals observed. All other behaviors are recorded only in the remaining 20 seconds. They (OP, GD, ID, TGQ, TIQ, SAT, STI, PI, PC) can be marked up to 3 times per interval, so they are reported as **frequency**: the sum of every mark across the time observed, not a percent of intervals. **Rate / min** = frequency ÷ minutes observed (each interval = 30 s); both frequency and rate are reported for every multi-mark behavior. **Teacher** = teacher-initiated events recorded across the target and peer rows (GD, ID, TGQ, TIQ). The **+** and **−** rows show how many occurrences were positive (complies, correct, positive interaction) or negative, and each one's share of the behavior total.

Figure 10. Summary table for Jordan (simulated), 40 intervals.

- **Engaged (E)**: % of intervals = intervals engaged ÷ intervals observed. Jordan: 18 of 40 = 45%; peer: 32 of 40 = 80%.
- **Other behaviors**: **frequency** (the sum of every mark) and **rate per minute** = frequency ÷ minutes observed. Jordan's Out of Place: 14 in 20 minutes = 0.7 per minute.
- **+ and − rows** show how many occurrences were positive or negative and each one's share of the total. **Teacher** totals the teacher-initiated events (GD, ID, TGQ, TIQ) across target and peer.

7. Target vs. Peer Comparison

Below the Summary table, the comparison table places the target and peer side by side, with the difference and a **discrepancy ratio** for each behavior.



Target vs. peer comparison

Behaviors	Measure	Target	Target rate / min	Peer	Peer rate / min	Difference	Discrepancy ratio
E Engaged	% of intervals	45%		80%		-35 pts	1.8
OP Out of Place	Frequency · rate	14	0.70	1	0.05	+13 (+0.65/min)	14.0
GD Teacher Group Direction	Frequency · rate	22	1.10	23	1.15	-1 (-0.05/min)	1.0
ID Teacher Individual Direction	Frequency · rate	23	1.15	5	0.25	+18 (+0.90/min)	4.6
TGQ Teacher Group Question	Frequency · rate	8	0.40	7	0.35	+1 (+0.05/min)	1.1
TIQ Teacher Individual Question	Frequency · rate	6	0.30	2	0.10	+4 (+0.20/min)	3.0
SAT Student Academic Talk	Frequency · rate	0	0.00	6	0.30	-6 (-0.30/min)	0.0
STI Student-Teacher Non-Academic	Frequency · rate	8	0.40	1	0.05	+7 (+0.35/min)	8.0
PI Peer Interaction	Frequency · rate	17	0.85	13	0.65	+4 (+0.20/min)	1.3
PC Physical Contact	Frequency · rate	4	0.20	2	0.10	+2 (+0.10/min)	2.0

Discrepancy ratio = target ÷ peer frequency count (the same as target ÷ peer rate, because both were observed for the same time). For Engaged (% of intervals), the ratio is shown as peer ÷ target so that values above 1.0 always indicate the target student's behavior differs from the peer's in the problem direction.

Figure 11. Target vs. peer comparison for Jordan (simulated).

- **Discrepancy ratio** = target frequency ÷ peer frequency (the same as the ratio of rates, because both were observed for the same time).
- For **Engaged**, the ratio is peer ÷ target, so a value above 1.0 always means the target differs from the peer in the problem direction.

Behavior (Jordan, simulated)	Target	Peer	Discrepancy ratio
Engaged	45%	80%	1.8
Out of Place	14	1	14.0
Teacher Individual Direction	23	5	4.6
Student-Teacher Non-Academic	8	1	8.0
Teacher Group Direction	22	23	1.0

> **Interpreting.** Jordan and the peer received about the same number of group directions (ratio 1.0), so the classroom demands were similar. Jordan was out of place far more often and received more than four times as many individual directions, a discrepancy worth defining as a problem and confirming with additional observations.

8. Graphs

The Graphs tab repeats the report heading and shows the target (blue) and peer (orange) for every behavior. Shaded portions of a bar are negative (–) marks.

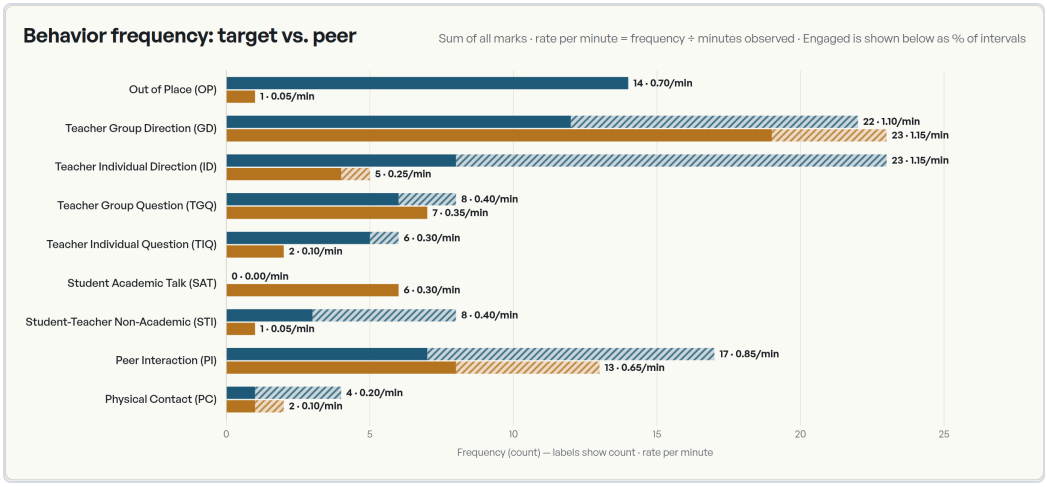


Figure 12. Behavior frequency with rate per minute labels. Blue = target, orange = peer; solid = positive (+) marks, hatched = negative (–) marks. Engaged time appears in Figures 13 and 14.

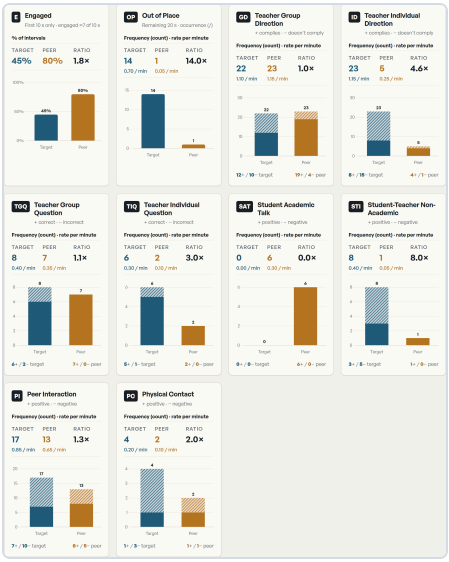


Figure 13. One card per behavior with target, peer and ratio.

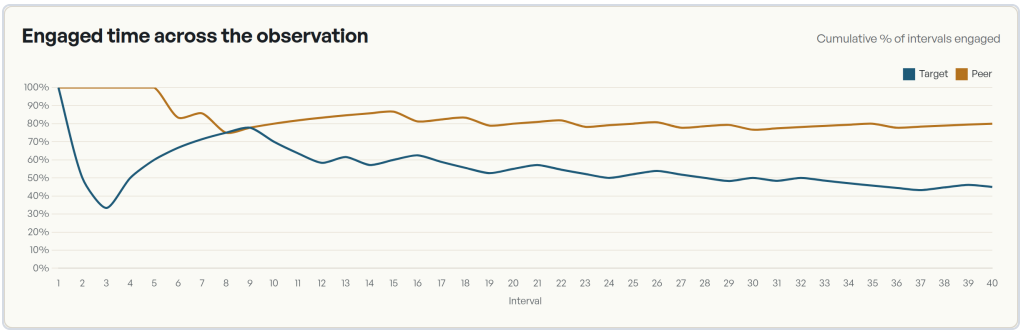


Figure 14. Engaged time across the observation: cumulative % of intervals engaged.

9. Saving, Exporting and Printing

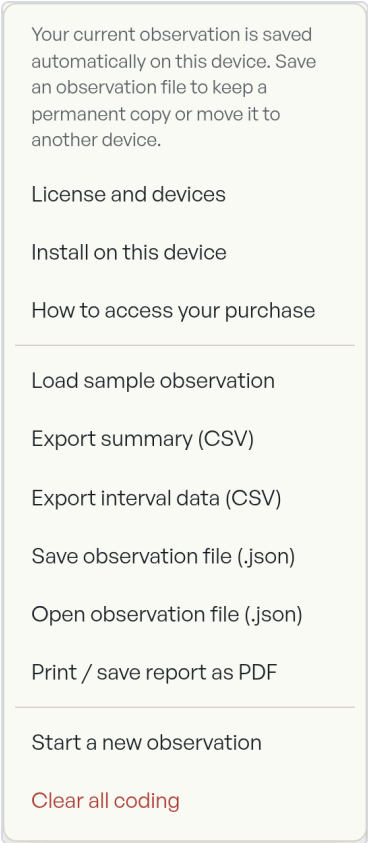


Figure 15. The Data menu.

Save observation file (.json)	A permanent copy you can keep, back up or open on another device.
Open observation file (.json)	Opens a saved observation. It replaces the observation on screen, so save that one first.
Export summary (CSV)	The summary table for Excel, Sheets or a data system.
Export interval data (CSV)	Every interval's marks for target and peer.
Print / save report as PDF	The title page, About page, Summary table and Graphs. Choose Save as PDF as the printer for a file.
Start a new observation	Replaces the current observation with a blank one.
Clear all coding	Erases the marks but keeps the observation details.
Load sample observation	A 50-interval practice observation. Viewing it is free; coding into it counts as a trial observation.

One device, one browser. Observations and trials do not sync between devices or browsers; Safari and the home-screen app on an iPad count separately. Private windows forget observations when they close, and clearing website data erases them, so save observation files as backups.

Only one observation is open at a time. Before starting a new observation, save the current one as a file. Name files clearly, for example by student initials and date.

10. Questions and Answers

How many observations should I collect? More than one. Behavior varies from day to day, so confirm a discrepancy across at least two or three observations, and in more than one activity when the concern appears in several settings.

Selected peer or composite peer? A composite of rotating typical peers gives a better picture of what is expected in the classroom; a selected peer is simpler to track. Record which you used; it appears on the report.

Why are rates shown with two decimals? The app currently displays rates per minute to the hundredth (for example 0.70). Report them to the tenth (0.7).

Does the STIC work without internet? Yes, once it has been opened or installed on the device. A license key needs an internet connection the first time it is activated.

Is student information sent anywhere? No. Observations stay on your device unless you save or export a file yourself. Activating a license sends only the license key and a device name to the license service.

Where do I get help? See How to access your purchase, or email markshinn@icloud.com for license help. The demo movie is on the STIC product page at markshinn.org/stic.