B3: Making Check-In/Check-Out (CICO) Feasible and Effective in High School

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MayInstitute

19TH ANNUAL NEW ENGLAND POSITIVE BEHAVIOR SUPPORT FORUM /PBIS: Research to Practice/

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Areas of Expertise
- PBIS / MTSS
- Implementation Science
- Emotional and behavioral disorders

Our team!

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Acknowledgements

- Our Team
  - Brigid Flannery, Kent McIntosh, Mimi McGrath Kato, Kathleen Strickland-Cohen, Nadia Sampson
  - 3-year IES-funded development and innovation project (R305A180015) focused on adapting CICO for high schools (PI: K. Brigid Flannery)
  - 5-year IES-funded Initial efficacy project (R324A230091) focused on scaling up CICO for high schools (PI: Kent McIntosh)

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Overview

- Overview of PBIS
- Core features of Tier 2 systems and practices
- Overview of CICO
- Adaptions for high schools
- High school example

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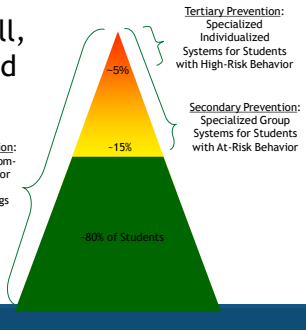
PBIS for all, some, and few



Tertiary Prevention: Specialized Individualized Systems for Students with High-Risk Behavior

Secondary Prevention: Specialized Group Systems for Students with At-Risk Behavior

Primary Prevention: School-/Classroom-Wide Systems for All Students, Staff, & Settings

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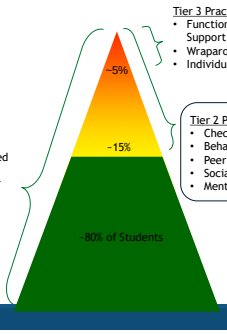
PBIS Practices



Tier 3 Practices:
- Function-Based Behavior Support Plans
- Wraparound Supports
- Individual Counseling

Tier 2 Practices:
- Check-In/Check-Out (CICO)
- Behavior Contracting
- Peer Tutoring
- Social Skills Groups
- Mentoring

Tier 1 Practices:
- Teaching school-wide expectations
- Acknowledging Expected Behavior
- Responding to Behavior Errors

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Activity: Think, Pair, Share

- Has your school started implementing Tier 2 interventions?
- If so, what decisions were made to determine when to implement Tier 2?

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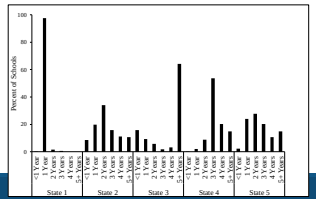
How Long Does it Take to Implement Tier 2?

Average time:

- Tier 1 to Tier 2 training was *2.48 years* (SD = 2.11)

	Tier 1 to Tier 2		
State	*n*	***M***	*SD*
State 1	793	**1.03**	0.20
State 2	461	**2.38**	1.69
State 3	120	**6.16**	4.42
State 4	563	**3.52**	1.38
State 5	443	**2.87**	2.11



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When to Implement Tier 2?

- Tier 1 school team trained/active
- Tier 1 implemented with fidelity for 1-2 years
- Classroom systems established and used by personnel with fidelity
- Implementing and using a data collection and decision systems
- Data indicate positive effects on student outcomes

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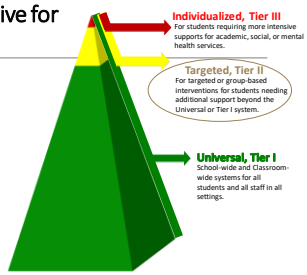
Why is Tier 2 Effective for Students?

- More time and instruction for skill development
- More structure and predictability *(during a routine/subject or across the day)*
- Structured performance feedback
- Development of self-management skills *(self-monitoring, self-instruction, self-correction)*



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Core Features of Tier 2 Interventions

- Standardized routines and procedures
- Continuously available
- Function-based
- Explicit instruction
- Progress monitoring & feedback
- School-family communication
- Fading strategies

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Fidelity Measures of Tier 2 Practices

Table 2. Review of Measures Assessing Tier 2 Practice Fidelity for CICO

Core Feature	Tier 2 Practice Fidelity Measures			
	Check-In Facilitator/ Coordinator Fidelity Checklist	Check-Out Facilitator/ Coordinator Fidelity Checklist	Teacher/ Student Fidelity Checklist or Electronic Point Card	CICO Fidelity of Implementation Measure (CICO-FIM)
Continuously available	•	•	•	
Function based			•	
Explicit instruction	•	•	•	
Iterative feedback	•	•	•	•
Corrective consequences		•	•	
Family-school communication				•
Fading procedures				

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Activity: Think, Pair, Share

- What types of Tier 2 systems are needed to support implementation of Tier 2 interventions?
- Same or different from Tier 1 systems?

Tier 1 Systems

- Tier 1 school team trained/active
- Classroom systems established and used by personnel with fidelity
- Implementing and using a data collection and decision systems

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Core Features of Tier 2 Organizational Systems

- Efficient Tier 2 team with behavioral expertise
- Use of data-based decision making
- Student screening and identification
- Training and ongoing support (staff, students, families)
- Coordinated with Tier 1 and Tier 3 systems

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Fidelity Measures of Tier 1 and 2 Organizational Systems

Table 1. Review of Measures Assessing Tier 1 and 2 Organizational Systems Fidelity for CICO

Core Feature	Tier 1 and 2 Organizational Systems Fidelity Measures			
	TFI Tier 1	TFI Tier 2	CICO-Secondary Intervention Development Checklist	CICO Fidelity of Implementation Measure (CICO-FIM)
Nomination protocol		•	•	•
Tier 2 team		•	•	•
Data system	•		•	•
Data decision-making	•	•	•	•
Professional development	•	•	•	•
Fading procedures			•	
Coordinated with Tiers 1 and 3	•	•		

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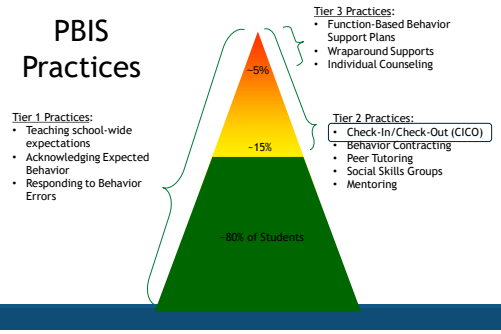
PBIS Practices



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Check-In/Check-Out (CICO)

- Provides a daily "check-in" and "check-out" with an adult with student support and problem solving as needed
- Prompts & Promotes positive adult-student interaction - each class period begins with a positive interaction with staff
- Increases the frequency of contingent positive & constructive feedback from adults – available each period
- Increases recognition for expected behavior

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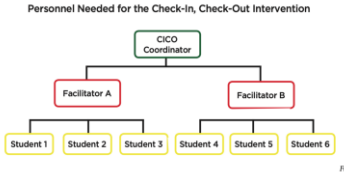
Schoolwide Organization



https://pbismissouri.org/tier-2-workbook-resources/

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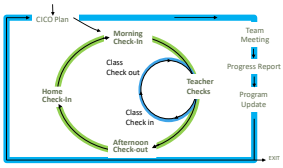
CICO Adult and Student Cycles

- Daily Student/Coordinator Cycle
- Daily Student/Teacher Cycle
- Team Cycle



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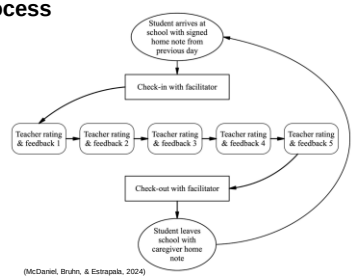
CICO Process



(McDaniel, Bruhn, & Estrapala, 2024)

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Daily Progress Report

Behaviors aligned with schoolwide expectations

Might be defined with the student's specific behavioral needs in mind

Remember, this is not a points sheet.

This is to structure the *feedback* provided to students and to collect progress monitoring data

Name:
Date:

	Rarely = 1	Sometimes = 2	Always = 3

	Be Respectful			Be Responsible			Be Safe		
Reading									
Math									
Science									
Social Studies									
Writing									
Totals									

Today's Goal:
Did I reach my goal? YES NO

(McDaniel, Bruhn, & Estrapala, 2024)

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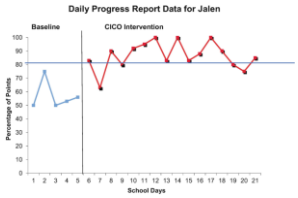
Student Progress Monitoring

- Collect one week of baseline DPR data
  - Student DOES NOT receive feedback during baseline
- Implement with student after baseline
- Transfer DPR data to a spreadsheet weekly
- Graph by student and review weekly or bi-weekly



(McDaniel, Bruhn, & Estrapala, 2024)

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Activity: Think, Pair, Share

- How do contextual features in your school impact CICO implementation?
- What adjustments/adaptations to CICO might need to occur for CICO to be effective?

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Students Who Participated in CICO

Month	School Type							
	Elementary	Students	Middle	Students	High	Students	Other	Students
August	261	4.61	57	4.16	3	6.33	1	18.00
September	756	5.52	165	6.85	11	6.18	4	9.50
October	1031	7.11	224	9.64	21	6.52	5	9.00
November	1098	8.01	233	11.00	25	6.16	5	11.00
December	1129	8.32	229	11.12	21	6.48	6	9.17
January	1164	9.11	239	11.77	23	5.74	6	11.33
February	1185	9.41	244	12.00	25	4.84	4	14.75
March	1188	9.71	241	11.81	27	4.48	5	13.00
April	1172	9.88	228	12.25	30	4.87	5	13.60
May	1122	9.27	205	10.81	25	4.84	4	16.25
June	585	7.16	91	7.15	11	3.73	4	14.25
July	2	12.50	--	--	--	--	1	8.00

Kittelman et al. In Prep

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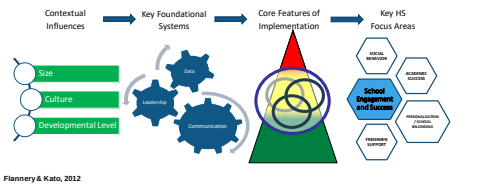
PBIS in High Schools



Flannery & Kato, 2012

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High Schools Implementing CICO

(Kittelman et al., 2018)

Snapshot of 18 high schools

- Majority implementing 1-2 years
- Most using for students in 9, 10 grade
- Most made adaptations to fit school size, culture, & development level of students

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Strategies for Incorporating Academic Supports

- Academic goal setting strategies
  - Be prepared for class
  - Increase assignments completed
  - Use a note taking strategy
- Participate in CICO + academic seminar / after school tutoring
- Teachers discuss weekly assignments when providing feedback on behavior goals

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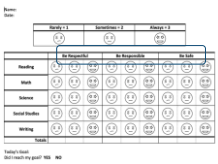
Developmental Level: Daily Progress Report

ELEMENTARY VERSION



HIGH SCHOOL VERSION

"Our students refuse to carry the cards from class to class" – CICO HS Coordinator

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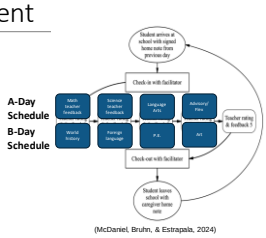
School Size: Multiple Teachers Per Student

- In elementary schools, one teacher provides feedback multiple times
- In high schools, multiple teachers may provide feedback one time



(McDaniel, Bruhn, & Estrapala, 2024)

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CICO-Secondary

A Tier 2 Adaptation for High Schools

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Training for Students & Staff

Standard Implementation	CICO-Secondary
Heavy emphasis on training staff	Student assessment is self-guided
Focus on process and adult behavior	Students rate their own behavior first, then self-recruit feedback from staff to assess agreement
Adult driven goals with student input	Beginning and end of day check-ins/outs include verbal praise and corrective feedback **+ feedback on self-directed goals**

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Data Collection Format

Standard Implementation	CICO-Secondary
Paper DPR	Electronic Daily Progress Report (eDPR) on handheld device or tablet
Staff rate student behavior and provide feedback	Student and teacher rate student behavior and discuss agreement from the beginning
Self-monitoring/rating as a fading component	eDPR automatically summarizes daily points, which can be sent to families by CICO coordinator

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Daily Check-In/Check-Out

Standard Implementation	CICO Secondary
Student assessment is Teacher-directed	Student assessment is self-guided
Staff provide feedback at predetermined transitions	Students rate their own behavior first, then self-recruit feedback from staff to assess agreement
Beginning and end of day check-ins/outs include verbal praise and corrective feedback	Beginning and end of day check-ins/outs include verbal praise and corrective feedback **+ feedback on self-directed goals**

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CICO-Secondary Evaluation Studies

- **Kittelman et al. (2019)**
  - Piloted with 5 students in 1 high school
  - Positive effects on academic engagement, decreased disruption for those who participated with high fidelity
- **Kato et al. (2023)**
  - Implemented with 23 students (44% w/IEP) in 2 high schools
  - Significant, positive relation between student/teacher fidelity and behavioral expectations
- **Kittelman et al. (2023)**
  - Non-concurrent multiple baseline design with 3 students (2 with IEPs)
  - Functional relation between implementation of CICO-Secondary and increases in academic engagement
- **Flannery et al. (under review)**
  - Randomized controlled trial (RCT) conducted in 1 high school with 14 students (5 with IEPs)
  - Meaningful effects on student attendance, teacher ratings of social and academic behaviors

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Single-Case Study (Kittelman et al., 2023)

Research Questions:

1. Can CICO-Secondary be implemented with fidelity?
2. Is there a functional relation between implementation of CICO-Secondary and improved student outcomes?
3. Do students and school personnel perceive CICO-Secondary to be socially acceptable?

Setting

- 1 public high school in the pacific northwest
- Implemented CICO-HS during 2019-20, 2021-22 school years

Participant	Characteristics	A-Day	B-Day
Tracy	9th grade, White, female, no IEP	English	Science
John	9th grade, White, male, with IEP	Algebra	Science
Dan	9th grade, White, male, with IEP	Social Studies	Science

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Method

- Observation
  - 2 school years due to COVID-19 (2019-20 & 2021-22)
    - John and Dan (Feb 2022 – March 2020)
    - Tracy (April 2022 – June 2022)

Measures		
Fidelity	Behavior	Social Acceptability
1. Tier 1, 2 systems fidelity 2. CICO systems fidelity 3. Daily CICO fidelity	Academic engagement	Self-report measure

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Measurement of Systems and Daily Procedural Fidelity

- **Systems fidelity**
  - 2019-20 TFI Tier 1 fidelity = 83%
  - 2019-20 TFI Tier 2 fidelity = 77%
  - CICO-Secondary Intervention Development Checklist = 80%
- **Procedural fidelity**
  - Check-in (x1)
    - Greet teacher (x4)
    - Self-rate (x4)
    - Teacher-rate (x4)
  - Check-out (x1)

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Procedures and Design

- Interobserver agreement (IOA) for behavior
  - Collected across 27% of students/phases
  - IOA 94% for academic engagement
- Design and analysis
  - Nonconcurrent multiple baseline design
    - Visual analysis
    - Between-case standardized mean difference

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Results

RQ1: Daily Procedural Fidelity

- Overall mean/range
  - Tracy = 70.9%; rng = 50 - 100%
  - John = 77.5%; rng = 50 - 100%
  - Dan = 86.9%; rng = 50 - 100%

Student	Days of Participation	Check-In	Greet Teacher	Self-Rate	Teacher Rate	Check-Out
Tracy	13	100%	62%	60%	73%	100%
John	12	100%	62%	75%	79%	100%
Dan	6	100%	72%	83%	83%	100%

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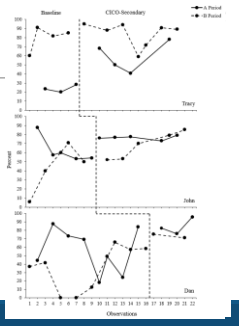
Results
RQ2: Student outcomes

- Academic Engagement
  - Tracy: Baseline = 55.6%; Intervention = 75%
  - John: Baseline = 53.2%; Intervention = 72.2%
  - Dan: Baseline = 45.1%; Intervention = 80.1%
- Effect size
  - BC-SMD: 1.05, *SE* = 0.21; CI [0.63, 1.47]



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Results

RQ3: Socially Acceptable

Question (1 = strongly disagree; 6 = strongly agree)	Students		Teachers		Coordinators	
	N	M	N	M	N	M
Understood roles/responsibilities	3	5.00	3	5.00	3	6.00
Improved positive student behaviors	3	5.33	3	4.00	3	4.33
Improved academic performance	3	5.33	3	3.67	3	4.33
Worth time/effort	3	5.67	3	5.00	3	5.00
Procedures easy to use/implement	3	5.67	3	4.67	3	5.00
Easy to do self-assessment/goal setting with students					3	5.33
Electronic point card simple to use	3	6.00	2	5.50	3	5.33
Self-regulation skills helped with self-management	3	4.33				
Would use again	3	5.67	3	5.00	3	4.67
Recommend to others	3	5.33	3	5.00	3	4.67

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Big Takeaways

- Supportive contexts needed for Tier 2 interventions
  - Install Tier 1 behavior systems
  - Install Tier 2 behavior systems
- Core features of CICO should remain intact even if contexts vary
- CICO can be effective and efficient in high schools

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References

- Kato, M. M., Kittelman, A., Flannery, K. B., & Cohen Lissman, D. (2022). Adapting and monitoring daily CICO implementation in high schools. Preventing School Failure, 67(1), 48-57. https://doi.org/10.1080/1045988X.2022.2106933
- Kittelman, A., Cohen Lissman, D., Strickland-Cohen, M. K., McGrath Kato, M., Flannery, K. B., Horner, R. H., Izzard, S., St. Joseph, S., & Mowery, A. (2023). CICO-Secondary: A single-case experimental study in high school. Journal of Positive Behavior Interventions. https://doi.org/10.1177/10983007231200542
- Kittelman, A., Strickland-Cohen, M. K., Horner, R. H., Morris, K. M., Lewis, T., & Flannery, K. B. Measuring Fidelity of Core Features of Tier 2 Systems and Practices in Schools. Center on PBIS, University of Oregon. www.pbis.org
- Hawken L. S., Crone D. A., Bundock K., Horner R. H. (2021). Responding to problem behavior in schools: The check-in, check-out intervention (3rd ed.). The Guilford Press.

Thank you

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