

Maximizing Students' School Breakfast Participation

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Key Findings:

1. School administrators and staff viewed school breakfast as the main way students eat in the morning. School and cafeteria staff felt that hot breakfasts particularly increased participation.
2. Serving breakfast in the cafeteria to entire classrooms after school starts maximized participation and minimized challenges.
3. Eat Right Philly was closely linked to implementation of “after the bell” breakfast models.
4. When “after the bell” models cannot be used, having students enter the building through the cafeteria explicitly invited students to eat so that students must opt out of breakfast instead of opting in.

Overview

Eating breakfast has a positive association with students' academic outcomes and attendance. Conversely, skipping breakfast is associated with decreased cognitive performance, such as alertness, attention, memory, and problem-solving.^{1,2,3} School-based breakfast programs can increase the extent to which students eat breakfast. However, not all students who need to eat breakfast at school do. Barriers to student participation can include their ability to arrive at school early enough to eat before school starts and/or stigma associated with eating breakfast at school.⁴

Every student in the School District of Philadelphia (SDP) has the option of eating breakfast at school free of cost. Yet, during the 2018-19 school year, breakfast participation

¹ Charles E. Basch, “Breakfast and the Achievement Gap Among Urban Minority Youth,” *Journal of School Health* 58, no. 10 (2011): 635.

² Beverly J. Bradley and Amy C. Greene, “Do Health and Education Agencies in the United States Share Responsibility for Academic Achievement and Health? A Review of 25 Years of Evidence About the Relationship of Adolescents' Academic Achievement and Health Behaviors,” *Journal of Adolescent Health* 52 no. 5 (2013): 523.

³ Centers for Disease Control and Prevention, “*Health and Academic Achievement*” *National Center for Chronic Disease Prevention and Health Promotion, Division of Population Health* (2014), https://www.cdc.gov/healthyyouth/health_and_academics/pdf/health-academic-achievement.pdf?s_cid=tw_shb10

⁴ Charles E. Basch, “Breakfast and the Achievement Gap Among Urban Minority Youth,” *Journal of School Health* 58, no. 10 (2011): 635.

across the District averaged 42%.⁵ Due to its positive effects on attendance, cognition, and academic outcomes, in Fall 2017 SDP set a goal of serving breakfast to 70% of students in attendance each day. This goal is important considering that the food insecurity rate in Philadelphia was 16.3% in 2018, which is the most recent data available.⁶ A food insecurity survey from late April 2020 indicates that in the United States after the COVID-19 crisis, two in five households of mothers with children 12 and under were food insecure.⁷ In Philadelphia, the food insecurity rate is projected to increase to 21.2% in 2020 as a result of COVID-19.⁸

Eat Right Philly (ERP), the District's nutrition and wellness program, works with SDP's Division of Food Services to support schools in increasing breakfast participation. ERP is a federally funded program through USDA SNAP-Ed.⁹ ERP helps schools educate students about breakfast, promotes the importance of breakfast in starting the day ready to learn, and provides technical assistance to help schools adopt different breakfast models.¹⁰

The Office of Research and Evaluation (ORE) conducted a study during the 2018-19 and 2019-20 school years to understand the successes and challenges of different breakfast delivery models adopted by SDP schools. This report answers the following research questions that were a part of that study, including:

1. What factors facilitate school breakfast delivery and student participation?
2. What are implementation challenges to school breakfast program delivery and in what ways can they be mitigated to maximize student participation?
3. How can Eat Right Philly work with the Food Services program office, schools, and students to increase breakfast participation rates?

In 2019-20, SDP had several models, or options, schools could use to serve breakfast. In addition to the traditional model of serving breakfast in the cafeteria *before* school, termed "cafeteria before the bell," SDP offered several options for serving breakfast aimed at increasing student

⁵ For more information on school breakfast in the School District of Philadelphia visit <https://www.philasd.org/foodservices/programs-services/breakfast/>.

⁶ For more information on food insecurity rates in Philadelphia County 2016-2018 see: <https://map.feedingamerica.org/county/2018/overall/pennsylvania/county/philadelphia>.

⁷ Lauren Bauer, "The COVID-19 Crisis Has Already Left Too Many Children Hungry in America," *The Hamilton Project*, May 6, 2020,

https://www.hamiltonproject.org/blog/the_covid_19_crisis_has_already_left_too_many_children_hungry_in_america

⁸ Feeding America, The Impact of Coronavirus on Food Insecurity, <https://www.feedingamericaaction.org/the-impact-of-coronavirus-on-food-insecurity/>, June 3 2020.

⁹ Funded by the Pennsylvania (PA) Department of Human Services through PA Nutrition Education Tracks, a part of USDA's Supplemental Nutrition Assistance Program (SNAP).

¹⁰ For more information on the School District of Philadelphia's nutrition and wellness program, Eat Right Philly visit <https://www.philasd.org/nutrition/>.

participation in school breakfast. These included serving breakfast on “grab-n-go carts,” serving “breakfast in the classroom” after school starts, and serving breakfast in the “cafeteria after the bell” (see box to the right).¹¹

Many SDP schools used a combination of breakfast models to maximize breakfast participation. For example, some K-8 schools served breakfast in the cafeteria before the bell to grades 1-8 but served kindergarten classes breakfast in the classroom after school started. Similarly, another school served breakfast in the cafeteria after the bell to the majority of the school but served breakfast in the classroom to a handful of classrooms due to capacity limitations in the cafeteria. Schools could also change their model, or the number of classrooms participating in a model throughout the year. In addition, many schools had a policy that allowed late students to eat breakfast at school.

Breakfast models and definitions

Cafeteria before the bell: Breakfast is served in the cafeteria before school starts.

Grab-n-go cart: Breakfast is available on a cart in the hallway (or somewhere else in the building) before or after the bell.

Breakfast in the classroom (BIC): Breakfast is delivered to classrooms for students to eat all together after school starts.

Cafeteria after the bell: Breakfast is served in the cafeteria after school starts, either to entire classrooms who come through the line together or to individual students who arrive late.

Methods

This report presents data from a two-year study on school breakfast in the District, including surveys of lead kitchen staff, surveys of principals, and observations and interviews at four school sites (Table 1). These different data sources were used together to understand the successes and challenges of different breakfast delivery models adopted by SDP schools.

Table 1. Data sources

Data Source	Description	School Year	Number of participants
Lead Kitchen Staff Surveys	Surveys asked Lead Kitchen Staff, who manage the cafeteria, about their experiences with breakfast models.	2018-2019	145
Principal Surveys	Surveys asked principals about their	2019-2020	38

¹¹ For more information on SDP’s efforts to expand breakfast participation using alternative models such as breakfast in the classroom, see: <https://www.philasd.org/research/wp-content/uploads/sites/90/2019/01/Expanding-School-Breakfast-Participation-2017-18-Research-Brief-January-2019.pdf>.

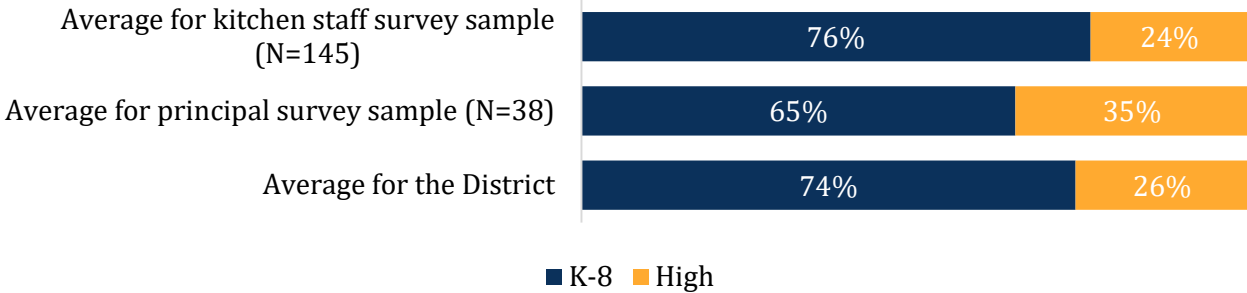
Data Source	Description	School Year	Number of participants
	experiences with breakfast models.		
School Observations	Observations of breakfast preparation and/or service in the cafeteria and/or classroom.	2019- 2020	14
School Staff Interviews	Interviews with school staff involved with breakfast model implementation.	2019-2020	10

Lead Kitchen Staff Surveys

In spring 2019, ORE surveyed SDP lead kitchen staff in order to understand their experiences implementing school breakfast models. Lead kitchen staff manage the cafeteria and are the primary staff member responsible for implementing the school’s chosen breakfast model. These surveys focused on lead kitchen staff experiences with and perceptions of current and past breakfast models at their schools. Surveys also included questions about why schools stopped using models. ORE sent the survey to the 242 lead kitchen workers managing SDP cafeterias.

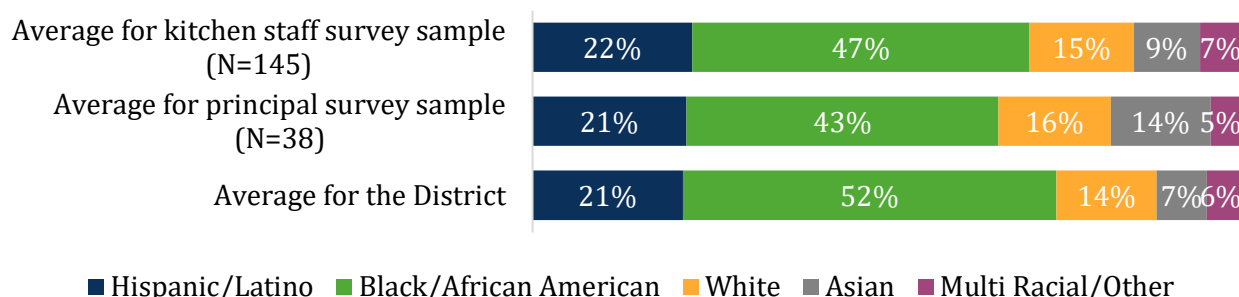
A total of 145 lead kitchen staff took the survey, for a response rate of 60%. The schools served by survey respondents represent SDP overall in terms of the proportion of schools at each grade level (Figure 1) and school demographics (Figure 2).

Figure 1. Grade levels of schools in the lead kitchen staff and principal survey samples compared to the average for the District



Source: ORE survey to SDP school principals (2019-20); ORE survey to SDP lead kitchen staff (2018-19); October 1 Snapshot Qlik App (2018-19)

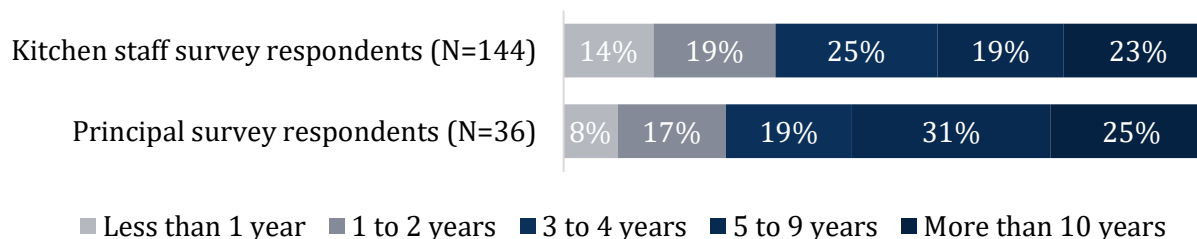
Figure 2. Race and ethnicity characteristics of schools in the lead kitchen staff and principal survey samples compared to the average for the District



Source: ORE survey to SDP school principals (2019-20); ORE survey to SDP lead kitchen staff (2018-19); October 1 Snapshot Qlik App (2018-19)

Most lead kitchen staff survey respondents had worked at their school "3 to 4 years" (25%), followed by "More than 10 years" (23%), "5 to 9 years" (19%), and "1 to 2 years" (19%). Just 14% had worked at their school for "Less than 1 year" (Figure 3).

Figure 3. Length of time that lead kitchen staff and principal survey respondents had worked at their current school



Source: ORE survey to SDP school principals (2019-20); ORE survey to SDP lead kitchen staff (2018-19); October 1 Snapshot Qlik App (2018-19)

Principal Surveys

In 2020, ORE surveyed SDP principals to understand the successes and challenges of different breakfast delivery methods adopted by SDP schools. These surveys focused on principals' experiences with and perceptions of current and past breakfast models at their schools.

A total of 60 surveys were sent via email to principals at SDP schools. First, surveys were sent via email to a random selection of principals at 56 SDP schools. In addition, surveys were sent to the principals of the four schools where observations and interviews were taking place. After an initial email and two reminder emails, principals at 38 schools responded to the survey for a response rate of approximately 63%. Six respondents (15.7%) did not complete the survey, but their responses to questions they did complete are included in the analysis presented in this report.

The principal survey sample had a larger share of high schools compared to the District as a whole (9 percentage point difference; Figure 1). The sampled schools also had smaller percentages of Black/African American students relative to the percentage of these groups across the District (on average) and higher percentages of Asian students relative to the percentage of Asian students in the District (Figure 2).

Most principal survey respondents had worked at their school “5 to 9 years” (31%; Figure 3). A quarter of respondents had worked at their school for “More than 10 years.” Just under 20% of respondents had worked at their school “3 to 4 years” (19%), followed by “1 to 2 years” (17%) and “less than 1 year” (8%).

School Observations and School Staff Interviews

During the 2019-20 school year, ORE conducted a total of 14 observations and ten interviews at four SDP schools in order to understand the successes and challenges of different breakfast models. Each of the four schools had a different combination of breakfast models (Table 2). Given that the prevalence of food insecurity is one reason why it is vital to maximize breakfast participation rates, we first limited the sample (all SDP non-charter schools) to schools where there might be a greater need for augmented food security. To select schools where food security is a bigger concern, we used two criteria: (1) the percentage of students who qualify as economically disadvantaged¹² and (2) parent and principal responses to the 2017-18 District Wide Survey.¹³ We limited the sample to schools where 20% or more of parent/guardians who responded to the 2017-18 District Wide Survey answered “yes” to the question, “In the past 30 days, have you worried about having enough food for you or your family?” We chose this marker because the city-wide food insecurity rate is approximately 20%.¹⁴ We also limited the sample to schools where more than 75% of students qualified as economically disadvantaged. In addition, we limited the sample to schools with an enrollment of over 500, given that smaller schools would not have the same logistical issues as larger schools when serving breakfast. From this list, we chose schools with varying breakfast models and grade levels.

¹² Economic disadvantage is represented by school-level Free-from-Tape rates, or the percentage of students per school that participate in income-tested government assistance programs. Because not all eligible families participate, Free from-Tape rates underestimate actual economic disadvantage.

¹³ The School District of Philadelphia’s Office of Research and Evaluation administers the District-Wide Survey (DWS) each spring to students, teachers, principals, and parents and guardians. The survey asks respondents about how they experience and perceive their schools. In 2018-19, 22% of SDP parents and guardians responded to the DWS. For more information on the DWS visit <https://www.philasd.org/research/programsservices/district-wide-surveys/>. For more information on parent and guardian DWS responses related to food security see here <https://www.philasd.org/research/wp-content/uploads/sites/90/2020/01/Food-Insecurity-in-SDP-2018-19-Issue-Brief-January-2020.pdf>.

¹⁴ For more information on food insecurity rates in Philadelphia County 2016-2018 see: <https://map.feedingamerica.org/county/2018/overall/pennsylvania/county/philadelphia>

Table 2. Characteristics of schools where observations and interviews were conducted and a description of the data collected at each school site during the 2019-20 school year

School site	Breakfast model description	School type	Approximate enrollment	Interviews	Observations
1	“Cafeteria before the bell” (with a “Grab-n-go cart” in a multipurpose room before the bell due to space limitations in the cafeteria)	Elementary	700	4	Two ORE staff conducted observations on two dates, for a total of four observations
2	Mostly “cafeteria before the bell” with some “breakfast in the classroom” (special education classes eat breakfast in the classroom after the bell)	High School	1000	2	Two ORE staff conducted observations on two dates, for a total of four observations
3	Schoolwide “breakfast in the classroom”	Elementary	700	2	Two ORE staff conducted observations on two dates, for a total of four observations
4	“Cafeteria after the bell” (with some “breakfast in the classroom” due to space constraints)	Elementary	800	2	Two ORE staff conducted observations on one date, for a total of two observations. ¹⁵

¹⁵ Observations at this school site were limited due to COVID-19 related school closures.

Key Findings

This section presents findings about the successes and challenges of different breakfast delivery methods adopted by SDP schools. Data from surveys of 38 SDP Principals and 145 lead kitchen staff provides an overview of the successes, challenges, and supports related to different school breakfast models. Observation and interview data from four schools provides a deeper contextualized understanding of the successes, challenges, and supports related to serving breakfast in the cafeteria before the bell, on grab-n-go carts, in the classroom, and in the cafeteria after the bell. Data from principal surveys, observations, and school staff interviews (i.e., administrators, teachers, and other school staff) are presented together to provide a complete picture of different breakfast models. The data sources used to draw conclusions are explicitly stated.

What factors facilitate school breakfast delivery and student participation?

Across all models, there was a perception that students relied on their schools to eat breakfast

Data from interviews shows that school staff (administrators, teachers, and other support staff) at all four school sites, representing various “before the bell” and “after the bell” breakfast models, perceived school breakfast as the main way students were eating in the morning. For example, a school staff member at school site 1, which served breakfast in the cafeteria before the bell, felt that their school community viewed school breakfast as the main way students eat in the morning: “I think our community as a whole, I think that’s their breakfast. It’s not optional. You go to school. You eat breakfast. That’s where you eat your breakfast.” Across all models, there was a perception that students relied on their schools to eat breakfast.

Data from interviews and observations at school sites shows that given the perception that students relied on schools for breakfast, many schools opted to serve breakfast after the bell, either in the classroom (“breakfast in the classroom”) or in the cafeteria (“cafeteria after the bell”) to reduce barriers to students accessing school breakfast, such as having to arrive at school early or any stigma associated with eating breakfast at school. For example, an administrator at school site 3, which served breakfast in the classroom school-wide, explained that parents and guardians face financial and time barriers to serving students breakfast at home before school:

We’re in a high poverty school. A lot of working parents, a lot of grandparents raising their kids. A lot of kids’ parents are getting off of shift work and then bringing their kids to school. A lot of homes can’t actually afford adequate nutrition for their students. Therefore, a lot of times breakfast is skipped or our parents rely on, now, breakfast for the school as a way for their students to get food, because what they’re getting at home is infrequent either because they can’t or they can’t afford it or they don’t have the time or it’s not nutritious. At least when they come to school, they get that nutritious well-balanced breakfast. (Administrator)

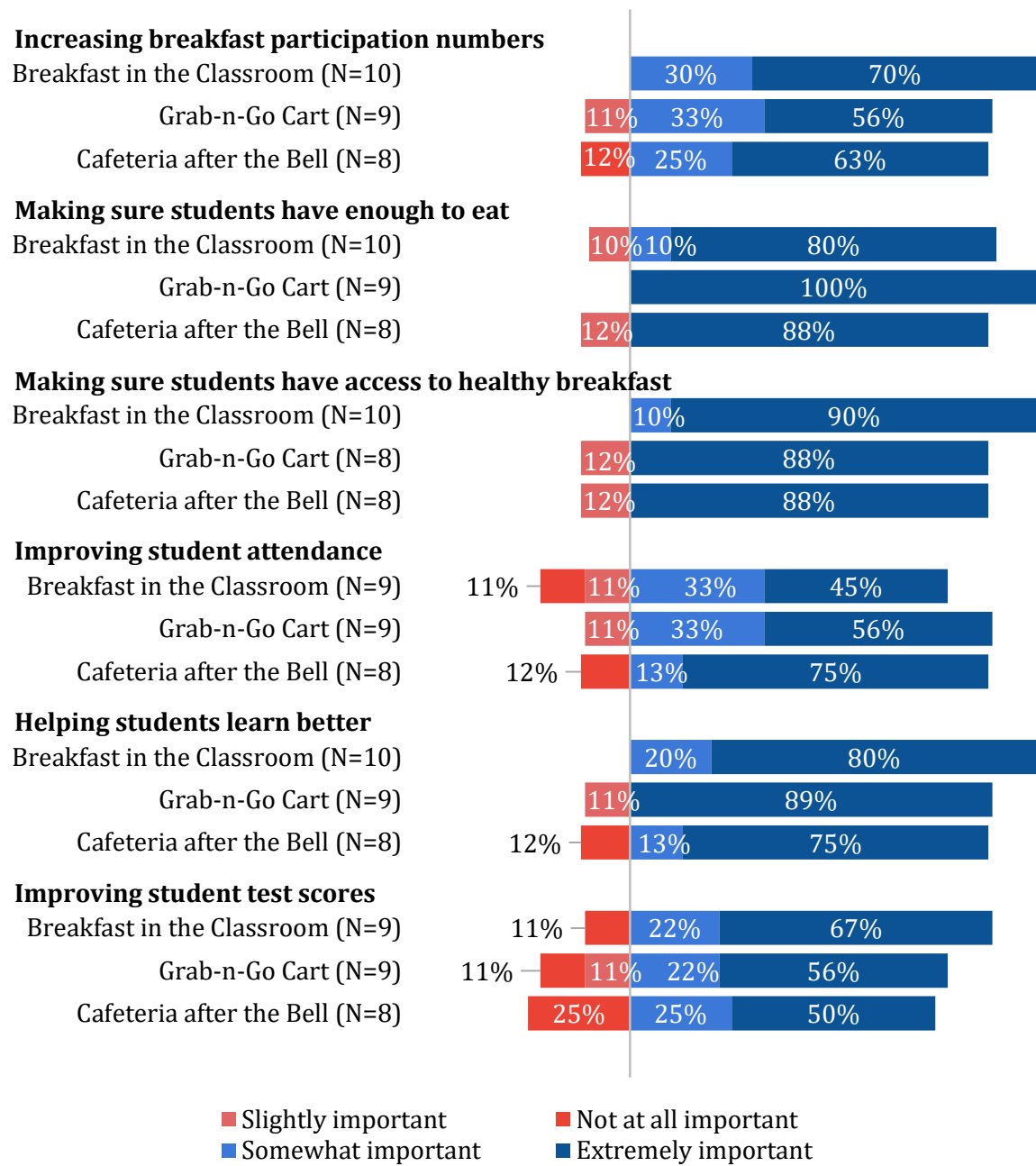
This administrator found that serving breakfast in the classroom after the bell ensured students were well-fed because it removed barriers to breakfast participation, such as having to arrive at school early; serving breakfast in the cafeteria after the bell also removed this barrier.

“Breakfast in the classroom” and “cafeteria after the bell” were both seen as a way to ensure students have enough to eat and access to enough healthy foods

Data from principal surveys showed that schools choose different breakfast models (“breakfast in the classroom,” “grab-n-go carts”, or “cafeteria after the bell”) to meet the same goals (Figure 4). When asked to identify which factors were most important for choosing their breakfast model, principals’ responses were broadly similar across different breakfast models. The two most important factors overall were “making sure students have enough to eat” and “making sure students have access to healthy breakfast foods.” Additionally, all factors were seen as important. A majority of principals who responded to the survey described every factor as “extremely important.”

Considering only responses from schools with “breakfast in the classroom” (BIC) and “cafeteria after the bell,” principals likewise placed high importance on ensuring students have access to enough healthy breakfast foods. Additionally, there were some differences between BIC and “cafeteria after the bell” responses. Principals at schools with BIC placed slightly more importance on increasing participation numbers and helping students learn better. Principals at schools with “cafeteria after the bell” placed slightly more emphasis on improving student attendance (Figure 4).

Figure 4. Principal survey responses indicating the relative importance of factors in their school's decision to have a breakfast model



Source: ORE survey to SDP school principals (2019-20).

How to read this figure: Each bar shows the percentage of principals with each breakfast model that described a particular factor as “Not at all important,” “Slightly important,” “Somewhat important,” and “Extremely important” in their decision to implement the program. The bars sum to 100% and are offset according to the share of responses that fell above or below the middle of the response options.

When “after the bell” breakfast models cannot be provided, having students enter the school through the cafeteria maximized participation

In open-ended survey responses, principals emphasized the importance of students walking directly past breakfast options as they enter school. They referred to requiring students to enter through the cafeteria and/or the placement of a grab-n-go cart near the main entrance as important factors for student participation. School sites 1 and 2, which both served most of their students’ breakfast in the cafeteria before the bell, had their students enter the building through the cafeteria. In both schools, students were required to stay in the cafeteria until it was time to go to their first class.

School site 1 had third and fourth grade students enter through the cafeteria where breakfast was served before the bell. Due to space constraints in the cafeteria, fifth grade students entered through a multipurpose room, where breakfast was served on a grab-n-go cart before the bell. At this school, students stayed in the cafeteria until their teachers picked them up.

School site 2, a high school, had students stay in the cafeteria until they left independently for their first period class. Moreover, students who came to school after first period started also entered through the cafeteria. They were required to stay in the cafeteria until the end of the first period so as to not disrupt class. Breakfast was still served at this time, giving late students the option of eating and maximizing breakfast participation. Having students enter through the cafeteria explicitly invites and encourages all students to eat breakfast.

School staff felt that providing students with hot meals and fresh fruit increased breakfast participation

Principals and school staff emphasized food quality, such as the ability to provide hot meals, as an important factor for student participation. For instance, one teacher observed that there are specific meals that maximized breakfast participation and other meals that students did not eat:

I think your breakfast participation would go up two-fold if we served stuff that the kids would enjoy to eat. That’s just my opinion. Like I said, I don’t know if anyone believes the same as me, but I know even just around my school, you see it. Some breakfasts the kids eat, some breakfasts they don’t eat. (Teacher)

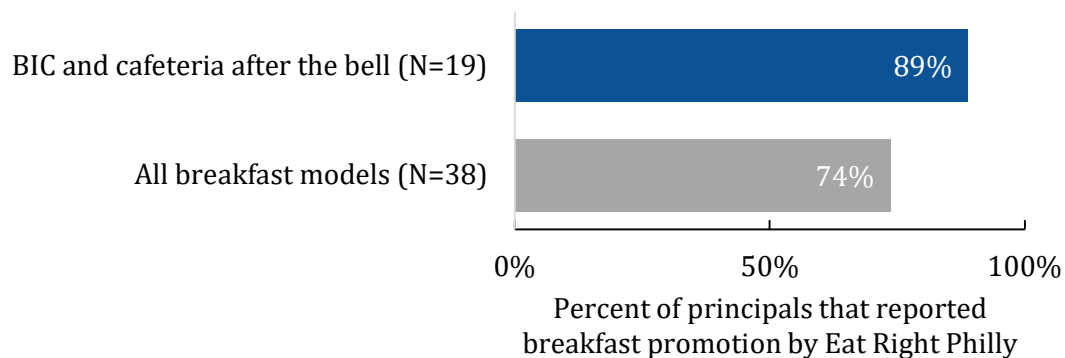
School and cafeteria staff noted that the breakfast meals they observed as most popular are hot breakfasts, such as egg sandwiches, and felt they should be served more often. One principal responded to an open-ended survey question by writing: “students love the sausage muffins but they are not served often.” In addition, observations indicated that students liked when fresh fruit, such as clementines or oranges, were served with breakfast. During one observation, students cheered when the teacher looked in the breakfast crate and announced there were oranges. Interviews and observations suggest that identifying and serving the most popular options more frequently would increase breakfast participation.

In general, observations and interviews indicated that staff found breakfast foods that were lower in carbohydrates and sugars and that were more filling to be best for students. They indicated one meal that included “a piece of cheese and a cookie and a fruit and a juice and a milk” that they felt was not enough food for students. Participants also felt breakfast items high in sugar have a negative impact on student behavior.

Principals at schools serving breakfast in the classroom or serving breakfast in the cafeteria after the bell were more likely to report Eat Right Philly involvement

Survey results suggest that Eat Right Philly (ERP), which provides SDP schools with nutrition and wellness programming, was closely linked to implementation of BIC and “cafeteria after the bell.” Surveyed principals were asked to select from a list of community partners to indicate which outside groups have promoted school breakfast participation at their school in the last year. Principals were also given a write-in “other” option and an option to indicate that “no” outside groups had promoted school breakfast. Schools that implemented BIC and “cafeteria after the bell” were much more likely to report outside engagement in breakfast promotion from ERP (Figure 5).

Figure 5. Principals at schools with “after the bell” breakfast models were more likely to report that Eat Right Philly promoted breakfast participation at their school within the last year



Source: ORE survey to SDP school principals (2019-20)

Observations at all four school sites, each with different breakfast models, and interviews with school staff show that ERP posted information about nutrition on bulletin boards and provided materials for parents/guardians to take home. However, interview participants were not aware of when or how ERP specifically promoted breakfast. One school staff member assumed that ERP taught the importance of breakfast during direct education about nutrition and felt that could occur more often:

When they’re doing their lessons, doing more instruction on the importance of and what a healthy breakfast looks like and that kind of stuff. Now, I’m not saying they don’t do that. They may do that. I’m just saying that that would definitely help. (School staff)

During prior research on ERP programming conducted in 2018-19, ORE observed that the importance of breakfast was emphasized by nutrition educators during direct education.¹⁶

During an interview, a teacher highlighted that breakfast promotion was made difficult for ERP because they were tasked with promoting eating the meals served at school when students do not like all of the options:

Kids, when they think of breakfast, in my opinion, they think of eggs and pancakes and waffles and cereal and oatmeal. They don't think of a piece of banana bread as breakfast... You can promote it all you want, but if it's something the kids don't like to eat, they're not going to eat it because someone tells them it's good for you. They're going to eat something because they enjoy eating. (Teacher)

Still, the fact that ERP encouraged students to try new foods was connected to breakfast participation. One school support staff member felt that in providing nutrition education and food tastings, ERP is teaching students to try new foods, making it more likely for them to try breakfast items. "...even though some of the ingredients they're not familiar with, they get excited afterwards because they actually participate. They make it so they really want to try what they make." This school staff member felt that students want to try the foods they make with ERP, increasing their enthusiasm to try new foods.

What are implementation challenges to successful school breakfast delivery and in what ways can they be mitigated to maximize student participation?

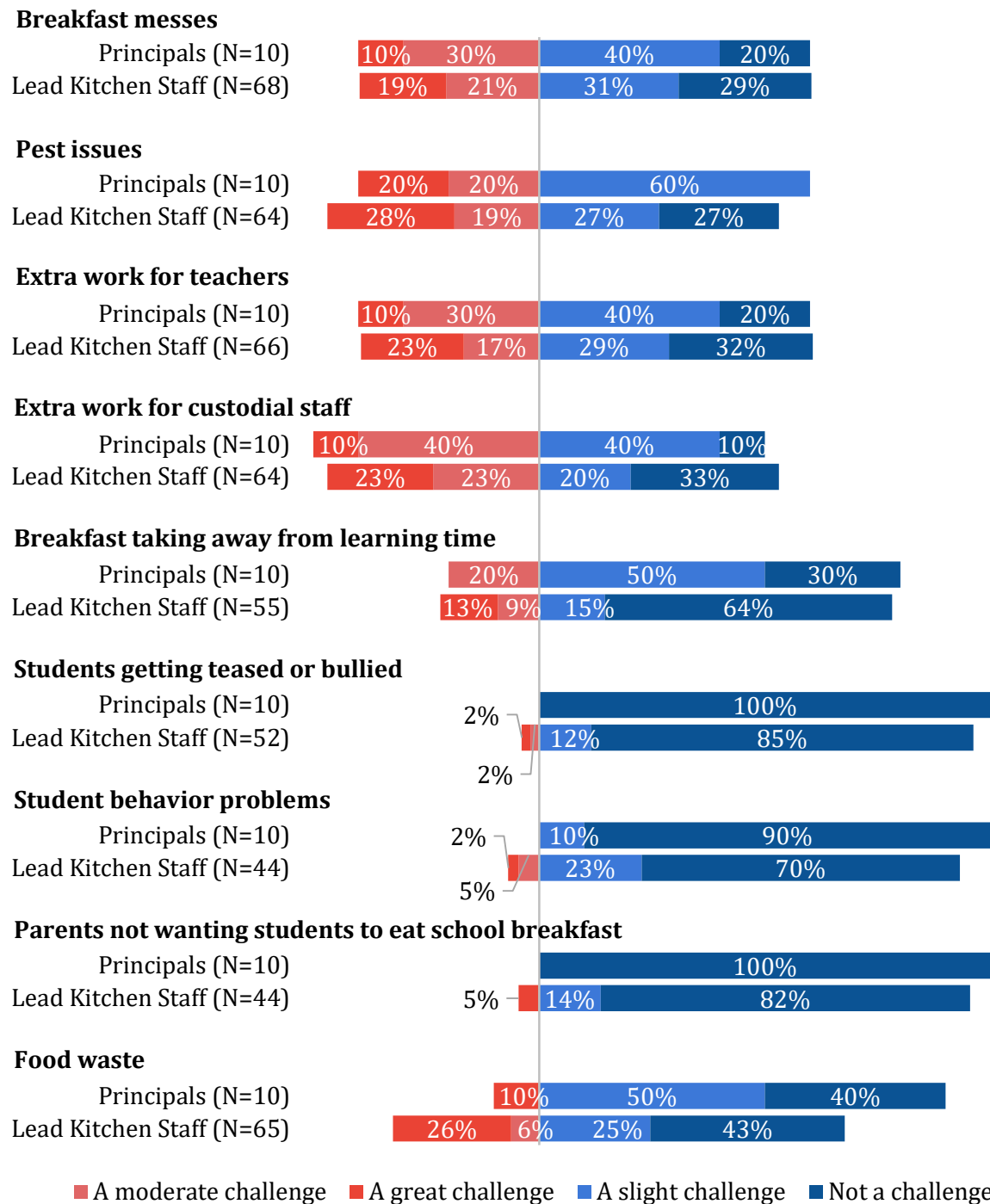
Kitchen staff and school staff experienced breakfast models differently

Comparing data from principal and lead kitchen staff survey responses shows that principals and lead kitchen staff have broadly similar understandings of the challenges associated with breakfast models, with some notable differences that may impact the breakfast model they favor. Principals gave the highest overall favorability rating to BIC while lead kitchen staff gave the highest rating to "cafeteria after the bell."

At surveyed schools that currently operate BIC, lead kitchen staff were more likely than principals to identify messes, pests, extra work for teachers, and extra work for custodial staff as "great" challenges (Figure 6). Other challenges, including food waste and student behavior, were also considered slightly more challenging by lead kitchen staff. The results suggest that principals and lead kitchen staff have different perspectives on breakfast model implementation. They may benefit from greater collaboration around decisions about which breakfast model is most appropriate within each school context.

¹⁶ Not all of our participants were classroom teachers, so they may not have had the opportunity to observe direct education on breakfast.

Figure 6. Survey responses by principals and lead kitchen staff at schools who serve breakfast in the classroom indicating the relative challenge of implementation factors



Source: ORE survey to SDP school principals (2019-20); ORE survey to SDP lead kitchen staff (2018-19).

How to read this figure: Each bar shows the percentage of principals or lead kitchen staff with a breakfast in the classroom program that described a particular implementation factor as “Not a challenge,” “A slight challenge,” “A moderate challenge,” and “A great challenge.” The bars sum to 100% and are offset according to the share of responses that fell above or below the middle of the response options.

Moreover, interviews indicate that communication between kitchen staff and school staff can be a challenge to successful breakfast implementation. For instance, an administrator at school site 3, which served breakfast in the classroom school-wide, expressed that the logistics of getting the breakfast crates to the classrooms, clean up once crates are returned, and recording breakfast participation requires communication about procedures:

We all see the value and the need to make sure that our students are well fed, especially that starts with a really nutritious breakfast to start off the day. Any frustrations that come across usually come with procedural and lack of clarity. (Administrator)

Kitchen staff turnover also contributed to challenges with communication and coordination around procedures. As one administrator explained, “sometimes I feel like my teachers aren’t sure. Sometimes I feel like something’s being said and then it changes based on rules and things like that. I think having [several] managers this year has... it’s been a little bit stressful.” Kitchen staff turnover can lead to changes in procedures, meaning that kitchen staff and school staff are no longer on the same page. School site 3, which served breakfast in the classroom school-wide, mitigated challenges to communication and coordinating by providing “refresher” trainings on breakfast procedures for school staff and holding meetings between kitchen staff and school staff.

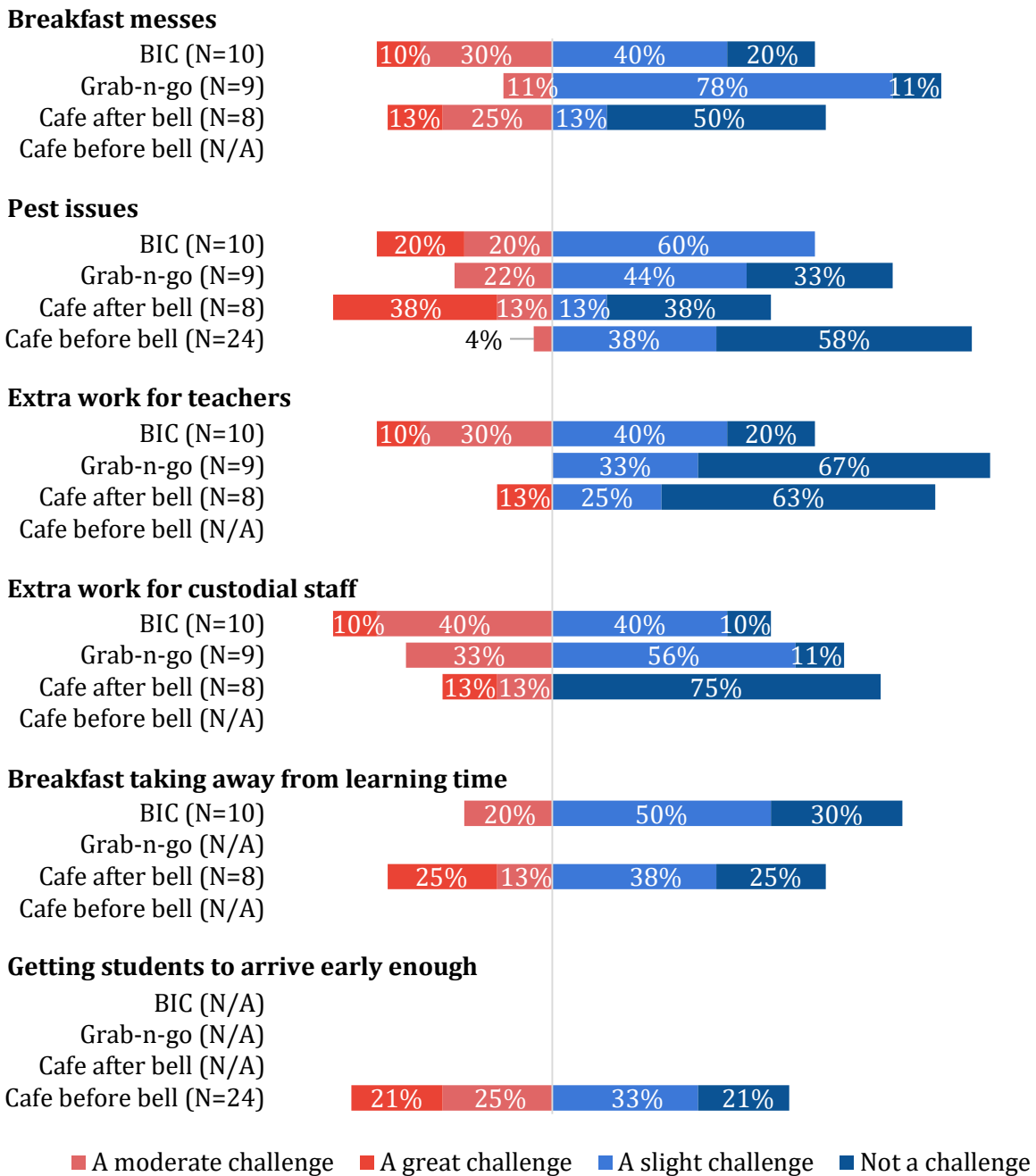
Serving breakfast in the cafeteria after school starts to entire classrooms maximized breakfast participation while minimizing challenges

Principal survey responses showed that most common challenges to breakfast implementation (e.g., messes, pests, or extra work for teachers and staff) were perceived to be less challenging by principals at schools that used the “cafeteria before the bell” model. However, getting students to come early was perceived as a significant challenge for schools with “cafeteria before the bell” (Figure 7). The BIC and “cafeteria after the bell” models removed the barrier of having to arrive at school early to be able to receive breakfast.

Comparing the BIC and “cafeteria after the bell” models suggests that challenges were generally greater for BIC, on average (Figure 7). For some factors, such as messes and pests, both models had similar percentages of principals reporting “moderate” or “great” challenges. However, in these cases, “cafeteria after the bell” had much larger percentages reporting “not a challenge.” In other words, BIC was consistently rated as more challenging overall, while “cafeteria after the bell” was described as challenging only in some school contexts. BIC was closely associated with challenges related to messes, pests, and extra work for teachers and custodians. “Cafeteria after the bell” was reported as having greater challenges related to missed learning time.

The results suggest that no single model is likely to be suitable in every school context. However, considering both survey and qualitative data, we find that the “cafeteria after the bell” model appears likely to address the primary concerns of school administrators, teachers, and support staff in many – but not all – school contexts.

Figure 7. Survey responses by principals indicating the relative challenge of select factors in their school’s implementation of their chosen breakfast model



Source: ORE survey to SDP school principals (2019-20).

How to read this figure: Each bar shows the percentage of principals within each breakfast model that described a particular implementation factor as “Not a challenge,” “A slight challenge,” “A moderate challenge,” and “A great challenge.” The bars sum to 100% and are offset according to the share of responses that fell above or below the middle of the response options.

Data from interviews with administrators and teachers shows that classroom messes and pests were a challenge related to serving breakfast in the classroom. As discussed above, data from principal survey responses confirms this finding. For instance, an administrator at school site four, which served breakfast in the cafeteria after the bell to the majority of the school, and breakfast in the classroom to a few classes due to cafeteria space issues, cited mice as one reason for transitioning from BIC to the “cafeteria after the bell” model. A teacher at school site 3, which served breakfast in the classroom school-wide, confirmed that cleaning up the classroom after breakfast was a challenge: “I like the fact that kids that may not be able to get to eat at home are able to eat, but I don’t like that it’s in the classroom itself. And the clean-up is a lot, and it takes a lot.” ORE observed teachers and students sweeping up crumbs after BIC and one student cleaning up spilled milk. While messes are inevitable, serving breakfast in the cafeteria after the bell limits messes to one space.

In addition, staff indicated during interviews that they perceived a number of logistical barriers to serving hot breakfast meals, which were particularly liked by students, in BIC and “grab-n-go cart” models. Data from interviews and observations shows that serving hot breakfast using the “breakfast in the classroom” and “grab-n-go cart” models was too complicated. The principal at school site 3, which served breakfast in the classroom school wide, confirmed that serving hot breakfast in the classroom was “too hard.” Kitchen staff at school site 1, which used a grab-n-go cart explained that hot breakfast cannot be served on the grab-n-go cart because the temperature of the food would decrease as it was transported out of the cafeteria. Because BIC and “grab-n-go carts” made it very difficult to provide hot meals, “cafeteria after the bell” was the most feasible “after the bell” model for addressing this concern.

As discussed above, data from principal survey responses showed that one concern with the “cafeteria after the bell” model was that students missed out on learning time. However, ORE observed breakfast service in the cafeteria after the bell to be an efficient process. At school site 4, which served breakfast in the cafeteria after the bell to the majority of classes (with two classes eating breakfast in the classroom due to space constraints), students ate breakfast in the cafeteria after the bell in two shifts. During the first shift, first and second grade classes ate breakfast in the cafeteria at 8:20am. Two classes ate breakfast in the classroom due to space constraints. Kindergarten ate breakfast at the same time in a second cafeteria space. ORE observed K-2 students entering the cafeterias at 8:20am, participating in morning announcements, and beginning to eat breakfast at approximately 8:30am. Third and fourth graders went to their classrooms at 8:20am and then came back down to the cafeteria during the second shift. ORE observed both breakfast shifts to be completed by approximately 9:15am, each shift taking approximately 20 minutes. All students in both shifts sat at one table together with their class and teacher. The teacher facilitated breakfast service. The kitchen pre-prepared breakfast crates for each class and had them sitting on each table. The teacher passed out breakfast items and recorded breakfast participation for their class. This saved time as students did not have to walk through the cafeteria line.

Since students were sitting together with their classmates and teacher, eating breakfast in the cafeteria after the bell provided time for announcements, learning activities, and community

building. During the first breakfast shift, students listened to school announcements. Kindergarten students also participated in a literacy game. ORE observed classrooms eating together, each at a long cafeteria table. Students were eating and talking with their classmates and teacher. During an interview, a facilities worker at the school explained what they see in the cafeteria during “breakfast after the bell”:

A lot of kids, they sit around the table, they’re all eating together. I couldn’t really tell you how it impacts the little kids, I just see the expression on their face and they sit there and they talk with their little friends, and they’re having a good meal, so it’s pretty good. (School staff)

At this school, the act of sitting together as a class with their teacher at one table in the cafeteria seemed to create a positive environment in a space conducive to eating and appeared to be a time for community building.

Conclusions and Recommendations

Overall, school and cafeteria staff perceived school breakfast as the main way students were eating in the morning. Principal survey data indicates that schools choose BIC and “cafeteria after the bell” for similar reasons. Principals at schools with BIC and “cafeteria after the bell” models found “making sure students have enough to eat” and “making sure students have access to healthy breakfast foods” to be important factors in choosing their breakfast models. While “after the bell” models removed the barrier of students having to arrive at school early to eat, when they could not be provided, having students enter the building through the cafeteria maximized breakfast participation by explicitly inviting and encouraging students to eat.

Principal survey data suggests that ERP was closely linked to implementation of BIC and “cafeteria after the bell” breakfast models. An interview participant noted that by providing nutrition education and food tastings, ERP was teaching students to try new foods, making it more likely for them to try breakfast items. School staff also emphasized that food quality was an important factor in student breakfast participation with hot items, such as egg sandwiches, and fruit being particularly popular with students.

Overall, differences in kitchen and school staff experiences with breakfast models, and communication between kitchen and school staff, emerged as a challenge to breakfast implementation. Serving breakfast in the cafeteria after school started to entire classrooms minimized challenges associated with the “breakfast in the classroom” model, such as messes and pests in the classroom, while still not requiring students to come to school early to eat. To ensure students were not missing out on learning time while eating breakfast in the cafeteria after the bell, one school site had classes sit together and the teacher passed out breakfast items from pre-prepared breakfast crates. This saved time as students did not have to walk through the cafeteria line. Since students were sitting together with their classmates and teacher, eating breakfast in the cafeteria after the bell provided time for announcements, fun learning activities, and community building.

Recommendations for School and Central Office Staff

Serving breakfast in the cafeteria to entire classrooms after school starts maximizes breakfast participation while minimizing challenges. During “cafeteria after the bell”, breakfast is served in the cafeteria after school starts, either to entire classrooms who come through the line together or to individual students who arrive late. Consider making changes to the “cafeteria after the bell” model to minimize the amount of learning time students miss.

- Consider serving breakfast in the cafeteria after the bell in two shifts.
- Have students eat in the cafeteria after the bell together with their teacher and classmates.
- Provide each class a pre-prepared crate of breakfast meals to minimize the amount of learning time students miss. Ask the teacher to pass out meals to students and record

breakfast participation for their class so that individual students do not have to walk through the cafeteria line.

- Use the time spent eating breakfast in the cafeteria after the bell to also complete other school-related activities, such as announcements, educational games, or classroom community-building activities. Eat Right Philly could provide nutrition-related activities or programming for students during breakfast.

Stress the importance of breakfast with school staff by sharing information on the positive association between breakfast and cognitive performance, academic outcomes, and attendance. Moreover, emphasize the importance of school breakfast in addressing food insecurity by making sure school staff are informed of city-, district-, and school-level food insecurity rates.

Consider “after the bell” models for breakfast service, such as “breakfast in the classroom” (BIC) or “cafeteria after the bell,” **that do not require students to come to school earlier than school start times.**

When “after the bell” breakfast models cannot be provided, **having students enter the building through the cafeteria can maximize participation** so that every student must opt out of breakfast instead of opting in.

Identify favorite breakfast food items and prioritize serving them. Identify the least popular items and consider alternates.

- Include whole fruit, such as oranges, at every meal.
- Whenever possible, serve hot items, such as egg sandwiches. (“Cafeteria after the bell” is the most feasible “after the bell” model for this.)
- Consider the opinions of school-based staff who are with students during breakfast.

Improved coordination between principals and lead kitchen staff could help to identify challenges and better identify the most appropriate breakfast model within each school context. Regular meetings or check-ins could provide more opportunities for communication, identifying implementation challenges, and creating solutions.

Mitigate challenges to communication and coordination by providing “refresher” trainings on breakfast procedures for school staff and holding meetings between kitchen staff and school staff.

Recommendations for Eat Right Philly

Continue supporting and promoting “after the bell” models, such as “breakfast in the classroom” (BIC) and “cafeteria after the bell.”

- If schools are facing challenges with the BIC model, offer the “cafeteria after the bell” model as an alternative that mitigates many of the challenges associated with BIC, instead of returning to a before the bell model.
- Eat Right Philly (ERP) could help school staff use the time spent eating breakfast in the cafeteria after the bell to also complete other school-related activities, such as educational games, or classroom community-building activities. Specifically, ERP could provide nutrition-related activities or programming for students during breakfast.

Continue to stress the importance of breakfast at schools, specifically with school staff.

- Share information with school staff on the positive association between breakfast and cognitive performance, academic outcomes, and attendance. Moreover, emphasize the importance of school breakfast in addressing food insecurity by making sure school staff are informed of city-, district-, and school-level food insecurity rates.
- School staff may not be in the classroom to see how breakfast is promoted to students. Share this information with all school staff so that they can echo ERP messaging, providing a cohesive breakfast initiative at each school.
- School staff connected the fact that ERP encourages students to try new foods with breakfast participation. Continue taste tests and consider incorporating breakfast foods into taste test activities.