


How to Encourage College Summer Enrollment

Final Lessons from the EASE Project

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center for applied
behavioral science at mdrc

CAITLIN ANZELONE, MICHAEL WEISS, CAMIELLE HEADLAM
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OCTOBER 2020

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Ascendium ™

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Overview

Despite the benefits of taking summer courses, most community college students do not do so. MDRC's Encouraging Additional Summer Enrollment (EASE) study used behavioral insights and a financial incentive with the goal of boosting enrollment rates. The research team designed and then tested two interventions using a randomized controlled trial, the most rigorous form of evaluation. The study included 10,668 first-year community college students at 10 different schools in Ohio. All of the students were eligible for federal Pell Grants. The first intervention was launched at four colleges in spring 2017, when a total of 3,689 students were randomly assigned, and a second iteration was launched at 10 colleges in spring 2018, with 6,979 additional students. This report presents findings from the EASE evaluation and is the final report on this project. It examines impacts on academic outcomes one year plus one summer after students were randomly assigned.

There were three research groups:

- 1 Students in the **control group** received messages the college was already sending to promote summer enrollment and its standard financial aid.
- 2 Students in the **informational campaign group** received messages that incorporated principles from behavioral science. Using mostly email and mail, colleges sent personalized funding information about how the student could pay for the courses; testimonials from other students about why they took summer courses; plan-making prompts about how to register and choose courses; and reminders about deadlines.
- 3 Students in the **“last-dollar” tuition-assistance group** were offered a similar informational campaign plus gap tuition called the Summer Scholar Grant. The grant covered the difference between students' summer tuition and fees and their financial aid (that is, their Pell Grant and Ohio College Opportunity Grant funds).

Both interventions were effective at increasing summer enrollment. The addition of the last-dollar grant doubled the magnitude of the impact. The informational campaign cost an average of \$15 per student, while the last-dollar grant with the informational campaign cost an average of \$79 per student. The reinstatement of year-round Pell Grants by the federal government in between the spring 2017 and spring 2018 cohorts did not influence the effectiveness of the interventions: They were effective in both contexts. While the effects of the interventions on overall credits earned were modest, both interventions benefited students and had a positive return on investment for colleges, making them worthy of consideration for college administrators.

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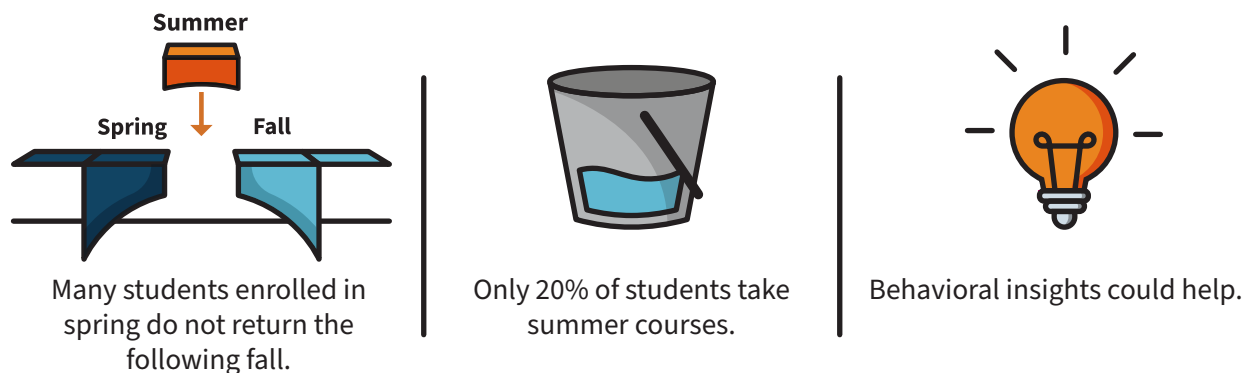
The Authors

Why Encourage Summer Enrollment?

Higher education is one of the largest systems in the United States that help reduce poverty and increase incomes. Community colleges, with year-round enrollment of more than eight million students, offer workforce development and skills training, provide a pathway to four-year institutions,¹ and have the potential to help students achieve their longer-term career objectives. The low cost of tuition and open admissions policies (compared with four-year colleges and universities) have historically meant that these schools have provided many students with access to post-secondary education they might not have had otherwise. However, students also face barriers when navigating the institutions designed to help them. Only 13 percent of students who enroll in a community college earn an associate's degree within two years, a sign that the system is not working as intended.²

The Encouraging Additional Summer Enrollment (EASE) project was developed by MDRC in partnership with the Ohio Association of Community Colleges and 10 community colleges in Ohio. The research team created two interventions to simplify enrollment decisions and promote registration. The goal was to encourage low-income community college students to enroll in summer courses that could help them make progress toward a degree. Summer enrollment may also keep students engaged in school, reducing their likelihood of dropping out between spring and fall semesters.³ Despite these potential benefits, most students do not enroll in summer courses (see Figure 1).

Figure 1. Why Study the Issue of Summer Enrollment?



- 1 Community College Research Center (2020).
- 2 Juskiewicz (2017).
- 3 Liu (2016).

Only about one in four students at the colleges in the EASE study enrolled in summer courses when the project began in 2017. There are many reasons why students may not sign up for summer, but central to the study were two questions: Could the team design interventions that would induce more students to enroll? And if more students enrolled, would they experience improved academic outcomes?

The team used behavioral insights, which can shed light on an individual's decision-making and behavior, to encourage summer enrollment. The study's design intentionally merged "nudges," defined as subtle and modest changes that help improve individual decision-making (such as targeted reminders or personalized letters),⁴ with a financial intervention (in this case, tuition assistance) to explore how the two would complement each other.

Central to the intervention design was to take the perspective of the students enrolling in college (see Figure 2). The team followed MDRC's Center for Applied Behavioral Science (CABS) approach — which focuses on elevating the experience of the end users — to identify the challenges students were facing and to consider various enrollment processes from their point of view.⁵ The team also analyzed administrative data collected by each college to further pinpoint interventions that might be the most effective. The team applied the CABS lens to the subject of summer enrollment, but it can also be applied to many aspects of the college experience to develop solutions to some of the challenges that students face.

Prior [EASE publications](#) provided copies of the EASE intervention materials and discussed early findings from the evaluation. This report, the final publication on this project, provides findings from the evaluation one year plus one summer after students were randomly assigned. It also presents information on the implementation and cost of the EASE interventions.

Why Is Summer Enrollment Low?

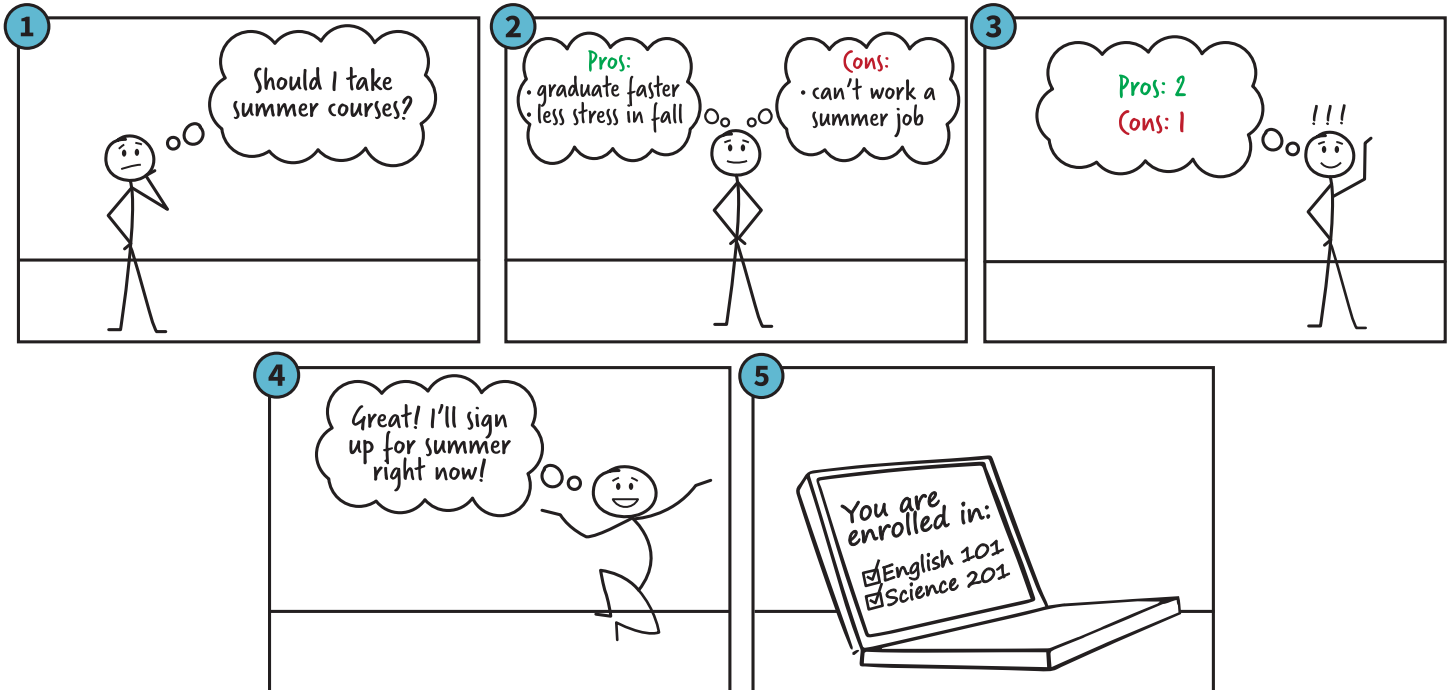
The team conducted a diagnosis of students' experiences to identify some of the barriers that prevent students from enrolling in summer courses. The inquiry focused on low-income students eligible for Pell Grants at four of the participating colleges. (Box 1 provides an explanation of terms used in this report.) At each institution, the team conducted student focus groups, interviewed administrators and staff members, reviewed available documents, and conducted quantitative analyses of summer registration trends and financial aid use (see Figure 3). As part of this diagnosis, the team mapped each step in the summer registration and financial aid process to identify points along the way at which barriers might be preventing students from enrolling. Several main insights emerged that the team linked to solutions to address these barriers.

⁴ Thaler (2018).

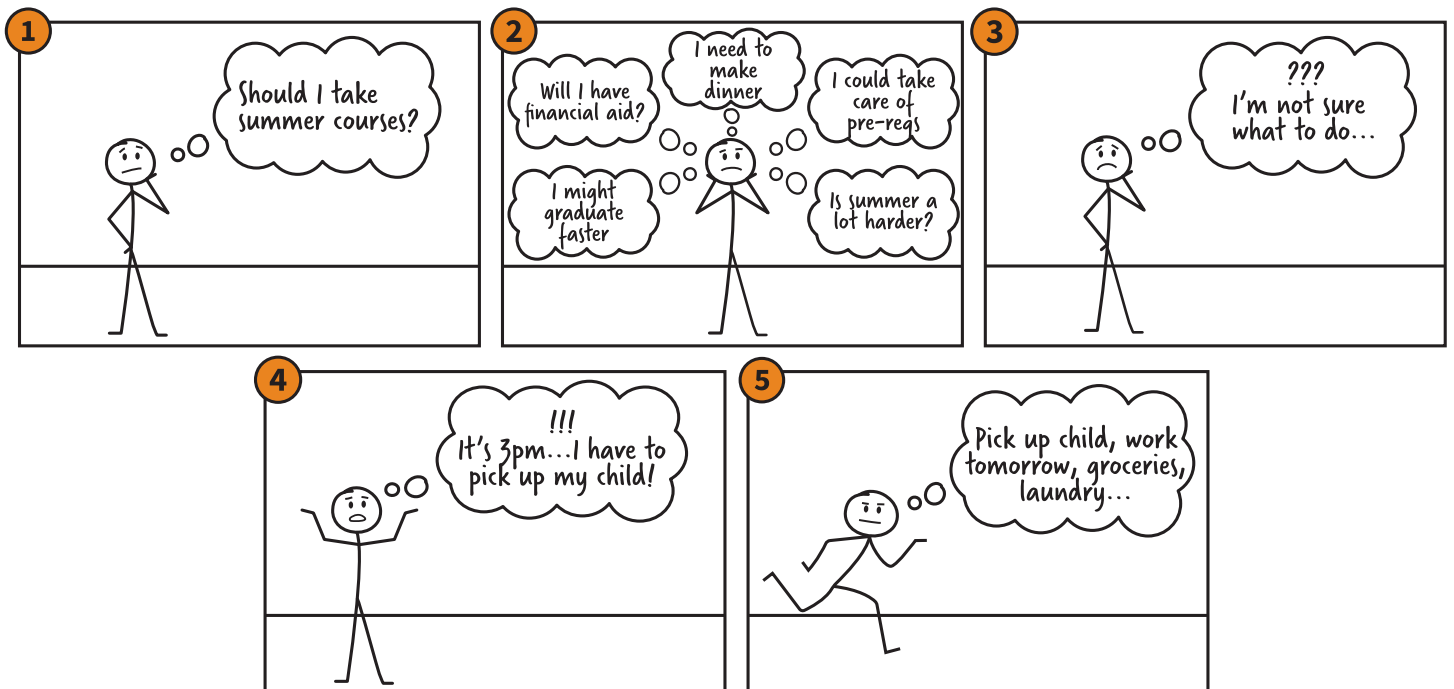
⁵ Headlam, Anzelone, and Weiss (2018).

Figure 2. Rational Versus Realistic View of the Student Decision-Making Process

Fictitious, “rational agent” view of student decision-making process



Realistic view of the student decision-making process



Box 1. Helpful Terms Used in This Report

PELL GRANT: This Grant is provided by the U.S. federal government and is available to students with financial need who have not earned their first bachelor’s degree and who are enrolled in college. Students must apply for Pell Grants using the Free Application for Federal Student Aid (FAFSA) and are awarded an amount based on their circumstances. This funding is directly applied to cover college tuition and fees. Students can also receive unused Pell Grant funds as refund checks that they can use to pay for books and other education-related expenses.

EXPECTED FAMILY CONTRIBUTION (EFC): Students must provide their income, and, if a dependent, the income of their parents or guardians, to receive a Pell Grant. Their income level, among other factors, generates an EFC amount that determines the size of their Pell Grant. Students with an EFC of zero are eligible for the maximum Pell award.

LAST-DOLLAR GRANT, CALLED THE “SUMMER SCHOLAR GRANT”: As part of the EASE intervention, students in the last-dollar tuition-assistance research group were offered a Grant called the Summer Scholar Grant. It covered the difference between students’ summer tuition and fees and any federal or state Grant financial aid (such as Pell Grant funding).

TRAILER COLLEGE: Colleges that structure their financial aid year as fall, spring, and summer are called trailer colleges. (In other words, summer “trails” as the last term in the aid year.)

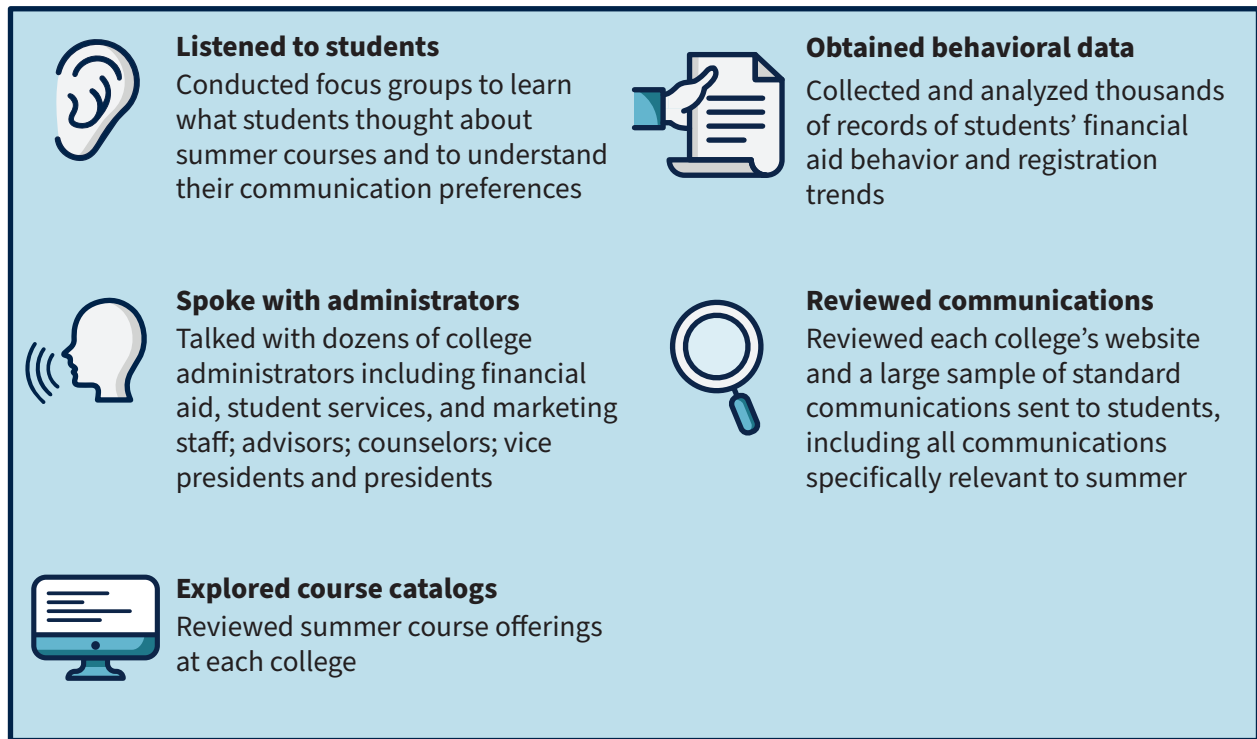
HEADER COLLEGE: Colleges that structure their financial aid year as summer, fall, and spring are considered header colleges. (In other words, summer “heads” as the first term in the aid year.)

CREATING SOLUTIONS THAT ADDRESS BARRIERS TO ENROLLMENT

BARRIER

Paying for summer courses is a major concern for students.

Students and staff members said that a lack of money was a key reason students did not enroll in summer courses. However, financial aid data that the team analyzed in 2017 revealed that most Pell-eligible students at the study colleges — 79 percent — did not exhaust all of their aid and had Pell Grant funding remaining that could be used for summer school. The reinstatement of year-round Pell Grants, which can be used in summer, led to an even *higher* percentage of students having funding available in 2018. While tuition is only one part of the cost of college, the team was interested in learning whether providing easy-to-understand information about available aid or a “last-dollar” tuition-assistance Grant (that is, one that covered the difference between students’ summer tuition and fees and their financial aid) would encourage more enrollment in summer classes.

Figure 3. The Research Team’s Diagnosis Process

SOLUTION

Communicate and simplify cost information.

All of the students in this study were Pell-eligible, first-year college students. Federal Pell Grant amounts are personalized based on each student’s circumstance. The award amount is largely based on two measures: the Expected Family Contribution (EFC), that is, the income, assets, and benefits from the student’s family; and enrollment level, the number of credits the student chooses to take. The lower the EFC, the more money the student will receive. There are also four enrollment levels for Pell funding: quarter time, half time, three-quarter time, and full time. Taken together, these factors provide each student with a unique dollar amount. (That amount can change based on EFC status changes and enrollment levels.) For a full-time student with an EFC of zero, the maximum award amount was around \$6,100 per year for the 2018-2019 award year. There are hundreds of combinations that exist for Pell award amounts. Figure 4 presents four examples that show how much the amounts may vary.

Because the customized calculations for students depend on their EFC and the number of credits they attempt in a given term, students may not be informed of their aid amount until after they register for courses. The paradox here is that if the financial aid information is only shared *after* the decision to enroll, students may not have all the information they need to make the decision to enroll in the first place. The team developed two ways to address this:

Figure 4. Pell Grant Award Examples

| Student | Expected Family Contribution (EFC) (\$) | Enrollment level | Award amount (\$) |
|-----------|---|------------------|-------------------|
| Student A | 0 | Full time | 6,095 |
| Student B | 1,000 | Full time | 5,145 |
| Student C | 0 | Half time | 3,804 |
| Student D | 1,000 | Half time | 2,573 |

SOURCE: Examples of Pell Grant awards taken from Ivy Tech Community College’s Federal Pell Grant Chart. <https://www.ivytech.edu/files/Federal-Pell-Grant-Chart.pdf>

■ SOLUTION 1: Provide personal funding estimates

The team explored how to explain summer school cost considerations to students. In collaboration with each participating college’s financial aid office, the team created a Pell Grant Calculator. Financial aid staff members used the calculator to estimate the dollar amount of an individual student’s remaining Pell Grant funding, and then sent the estimate in a personalized message to the student (see Figure 5). The email and postal mailings were designed to show funding by four thresholds: quarter time (1 to 5 credits), half time (6 to 8 credits), three-quarter time (9 to 11 credits), and full time (12 or more credits), because that is how Pell funding is distributed.

In the messages, the team also incorporated behavioral science principles such as reciprocity — the social norm of responding to a positive action with another positive action.⁶ The messages indicated that a financial aid staff member had taken time to review the student’s financial aid package and to calculate the amount of Pell Grant remaining to cover the student’s summer courses. The team included this principle to encourage students to take the estimate seriously and consider taking summer courses.

■ SOLUTION 2: Provide financial aid through last-dollar grants and frame summer courses as “free”

The team thought the Pell Grant Calculator would be an effective solution for students who had large Pell Grant amounts remaining. But several steps would still need to be taken: Students would have to decide which courses to take, identify the correct credit threshold, note the dollar amount

6 Fehr and Schmidt (2006).

Figure 5. Example of Personalized Funding Estimate in an Email

Hi Taylor,

I am pleased to let you know that **you have up to \$2,960 from the year-round Pell Grant to use for summer courses.**

I strongly recommend you take at least one summer class, because this is financial aid **you do not have to pay back.** Don't miss out on the opportunity to take advantage of your funding and get ahead in your education.

Your grant award will depend on how many summer courses you take. Use this chart* to determine how many courses you should plan to take this summer:

| If you take... | You will receive... |
|--------------------|---------------------|
| 1 to 5 credits | \$740 |
| 6 to 8 credits | \$1,480 |
| 9 to 11 credits | \$2,220 |
| 12 or more credits | \$2,960 |

If you have questions about your financial aid, email me, call 555-555-0100, or visit the Financial Aid office, located in the Student Services building M101.

Best,
Bill Louis
Financial Aid

*Important notes:

Funding is contingent on remaining a Pell Grant recipient in summer 2018.

Values in the chart are estimates based on your Expected Family Contribution (EFC) and enrollment history.

listed in the email and mailing, compare that with the cost of tuition for that credit amount, and then decide to sign up and pay the remaining tuition, if required.

Solution 2 eliminated those steps. The team, with funding from Ascendium Education Group, provided a last-dollar grant that was branded the “Summer Scholar Grant.” It covered the remaining cost of summer courses if Pell and state aid did not fully cover a student’s summer tuition. The team named it the Summer Scholar Grant to convey a scholar identity and the idea that students who take summer classes are not academically behind, as they might assume from experience in secondary school, but are getting ahead. Each Summer Scholar Grant amount was determined by a student’s remaining need (if any), and thus personalized to that student. This resulted in some students receiving Summer Scholar Grants with large dollar amounts, while others did not receive any money at all since their summer tuition was already fully covered by Pell and state aid. But for the student, the message was simply conveyed as the cost being “fully covered.” Summer was ultimately “free” for all students, so the team created messages that advertised free summer courses for Summer Scholar Grant recipients. This alleviated the hassle factor of determining whether a student had enough funding to cover summer tuition (see Figure 6).

Both strategies were designed to address the financial realities that students faced while providing them with a full picture of their financial situation — giving them the critical information they needed to decide about whether to enroll in summer.

BARRIER

Students have summer obligations such as working or caring for family.

While many students set out hoping to complete community college in close to two years, either by earning an associate’s degree or by transferring at that point to a four-year school, competing obligations stood in their way. Students tended to increase work hours during the summer months to earn extra money for the year, or they needed to care for children who were not in school during the summer. Others may have simply needed a break from school. By giving stronger weight to more immediate payoffs or needs, rather than focusing on the future benefits of summer courses, students might delay their degree aspirations.

SOLUTION

Elevate peers’ positive experiences in summer courses.

Aware of these competing priorities, the team gathered testimonials from other students who had successfully enrolled in summer courses, in order to influence the decisions of students in the EASE study.⁷ The testimonials addressed many of the concerns students in the study had expressed, such as not being able to take classes that they needed to graduate, the times that courses were offered, and the cost. Figure 7 provides sample testimonials from students at one Ohio college.

The team shared via email and mailings the experiences of students who had successfully used summer courses to fulfill degree requirements or to graduate on time or earlier. The team highlight-

⁷ MacCoun (2012).

Figure 6. Example of “Free” Summer Course Messaging

Dear Pauline,

Congratulations! This is official notice that you are one of a small number of students selected to receive the new **Summer Scholar Grant*** at ABC State College. All you have to do to take advantage of this opportunity is enroll in summer courses—**there is no application required**. If you enroll in one or more summer courses, this grant will fully cover the cost of your tuition and fees for the Summer 2018 semester. Once you register, the grant will be automatically applied to your summer bill.

You do not have to pay back this grant, and you can use it for as many courses as you would like to take this summer. If you do not use your grant for classes this summer, you will lose it next academic year.

| Grant Name | Grant Amount |
|----------------------|---|
| Summer Scholar Grant | Free tuition and fees for summer classes |

If you have questions about your financial aid package, email me, call me at 555-555-0100, or visit the Financial Aid office, located in the Student Services building M101.

Sincerely,
 Bill Louis
 Financial Aid

*The Summer Scholar Grant will be applied to the cost of summer tuition and fees after funds from any other federal and state grants are applied. Funding is contingent on remaining a Pell Grant recipient in the summer 2018 semester.

Figure 7. Example of Students' Experiences with Summer Courses

Dear Janae Williams,

As you may have heard around campus, many of your classmates are signing up for summer courses to get the most out of their time at ABC State College. You are one of a small number of students selected to receive the new **Summer Scholar Grant***, which means you can take summer courses for **free**.

I wanted to share a couple of stories from students like you who got the most out of their summer by taking classes:

"I wasn't sure in the beginning if I was going to take summer courses, but I am very happy that I did. It helped me not lose focus and just kept me on track... The workload part of it is huge for me because I won't have to stress out with taking two additional classes on top of my nursing program. And without doing summer, I wouldn't have been able to achieve that."

--Heather I., Nursing student

"I think of it as a win-win situation. I was able to finish my modern language requirement as a result of taking a summer course. I had a couple friends in the class, and we would typically study after classes together...It was a good experience overall."

--Jacob B., Associate of Arts

Make sure you don't miss out on this opportunity! If you haven't already done so, log in at www.stuinfo.collegesite.edu/registration to register for courses by May 1, 2018.

Sincerely,
James Cho
Student Academic Success

*The Summer Scholar Grant will be used to pay the cost of summer tuition and fees after other federal and state grants are applied. Funding is contingent on remaining a Pell Grant recipient.

ed examples of how students had overcome work or family obligations — for example, by taking advantage of evening classes or by taking courses online.

**BARRIER**

Summer term is not conveyed as the norm.

Students received limited information about the summer term, including its potential benefits and deadlines. The team's administrative data analysis revealed that college students under 24 years of age were less likely to attend during the summer, indicating that social norms may also have contributed to low summer enrollment. Some students may have remembered having summers off during secondary school and may not have considered enrolling in the summer term. Others may have believed that summer coursework was for students who were behind, as was often the case in high school, and not for those who aimed to get ahead.

**SOLUTION**

Highlight the benefits of enrolling in summer courses.

The team wanted to highlight the benefits of taking summer courses and the positive impacts on students' long-term outcomes. Many students who were increasing their work hours or pursuing other short-term priorities during the summer still hoped to complete an associate's degree in two years. The team wanted to make the idea of taking summer courses the norm by showing that by *not* taking summer courses, students were putting themselves behind. The team illustrated this concept on a postcard. The road straight to graduation included taking summer courses, while the road that didn't include taking summer courses was a detour to graduation.

**BARRIER**

Degree planning and course decision-making is complicated.

Students were often unaware of summer course offerings because the options were more limited than in the fall and spring semesters. However, many students — especially those who attended school part-time or had developmental education requirements — likely had courses they *could* take in the summer. At the same time, degree planning documents typically offered only fall and spring term information but did not mention the summer term, even though that was a time when meaningful progress could be made toward part-time students' degrees. Furthermore, because fewer courses were offered in summer, there was some concern that the courses students needed to meet their degree requirements might not be available.

**SOLUTION**

Provide clear options for summer courses and planning.

The team simplified the process of registering for summer courses by including all of the information that a student would need to enroll in just three steps. Each college's instructions varied slightly, but in this example, students were encouraged first to write down the courses that they hadn't taken yet, identify the classes offered during the summer that would work with their schedule, and then immediately sign up for them. The team linked to all relevant information, such as the course

catalog and the college portal, directly in the email to make it easier for students to navigate to the requisite web pages. Figure 8 shows a sample email sent by one of the project's college partners.

Several colleges created personalized course recommendations for students that highlighted three to five options that would work with their major. While this information was already available to students if they searched the college's course catalogue, highlighting and personalizing a few relevant options for them and providing clear guidance may have made them more likely to act on their intention to register.

**BARRIER**

Students who intend to enroll in summer may not always follow through.

Summer enrollment requires students to select the appropriate courses, determine whether they are offered during the summer, and complete the registration process by the deadline. But even if someone decides that enrolling in summer is a good choice, that student may not follow through. Registration trends found that students often enrolled, dropped, and reenrolled in courses up until the day summer classes began, indicating that their decisions might not always be final and could be swayed. Even students who managed to identify courses or knew what courses to take could still fail to complete the action (that is, to enroll and attend the term).

**SOLUTION**

Create planning tools.

Behavioral science has shown that people are more likely to follow through on an action if they make a plan ahead of time for how they are going to achieve it.⁸ On the other hand, behavioral science has also shown that people often experience the “planning fallacy,” in which they underestimate the time and resources needed to complete a future task.⁹ Even when students decided that they wanted to sign up for summer courses, they often fell into the intention-action gap — that is, the difference between what they said they were going to do and what they did. To prevent students from experiencing the planning fallacy and help them bridge the intention-action gap, the team developed two interventions: a planning tool at the bottom of a letter to clip and save (see Figure 9). and a simplified four-step plan within an email (not shown), to help students register for summer courses.

Taken as a whole, the team hoped these behavioral strategies would change students' perceptions of summer classes and induce them to enroll. It is important to note that the barriers described above emerged directly from the data collected from students, staff, faculty, advisors, and financial aid officers, along with administrative data the team analyzed. The team wanted the solutions to be simple for colleges to adopt while being grounded in the actual problems students were experiencing.

⁸ Rogers, Milkman, Leslie, and Norton. (2013).

⁹ Buehler, Griffin, and Ross (1994).

Figure 8. Example of Instructions for Registering for Summer Courses

Hi Jane,

Summer registration is now open!

Take advantage of your new **Summer Scholar Grant**, which allows you to take Summer 2018 courses for **FREE!** Taking summer courses is the best way to stay on track toward getting your degree. In fact, many of your classmates at ABC State College attend summer classes to graduate sooner.

Secure your seat in the classes you need by taking a few minutes to register for summer courses now. Follow these simple steps to enroll:

1. Look at the summer course schedule [link here] and write down courses that you need for your degree program that you haven't taken yet.
2. Choose courses that work with your summer schedule.
3. Register for your summer courses at www.stuinfo.collegesite.edu/registration.

Pay for your summer courses with your Summer Scholar Grant.

If you need assistance, take 15 minutes this week while on campus to check in with me. Contact me at klucas@collegesite.edu or 500-555-0100 to schedule a quick advising session.

Sincerely,
Karen Lucas
Academic Advisor

P.S. All you need to do to receive the Summer Scholar Grant is enroll in summer courses. You do NOT need to apply for the grant separately. The Summer Scholar Grant will be used to pay the cost of summer tuition and fees after other federal and state grants are applied. Funding is contingent on remaining a Pell Grant recipient in summer 2018.

Figure 9. Example of Plan-Making Tool in a Letter

✂

**Your goals could be closer than you think!
Register for summer now to make it happen.**

Think about how summer can help you: yes no

I want to graduate faster ○ ○

I would like to earn more credits this year ○ ○

I still have prerequisites to take for my major ○ ○

If you checked yes to any of these, summer courses are right for you!

I will commit to taking summer courses so I can achieve my goals faster.

Check off a day next week when you will register for classes

| S | M | T | W | T | F | S |
|---|---|---|---|---|---|---|
| | | | | | | |

Tip
Set a reminder on your phone for the day you choose!

ADAPTING INTERVENTIONS TO NATIONAL POLICY CHANGES

Phase I of the EASE interventions launched in spring 2017 and included a cohort of 3,689 first-year low-income students who had enrolled in the spring semester. At that time, students who enrolled full time in the fall and spring semesters did not have Pell Grant funding remaining for summer courses, but part-time students may have had some Pell funding available. Phase II of the interventions, with a cohort of 6,979 students, was launched at 10 colleges in spring 2018 to encourage enrollment in the summer 2018 term. By then the year-round Pell Grant had been reinstated and all Pell Grant recipients could receive funding to pay for summer courses.

The solutions described were used to encourage enrollment in both the 2017 and 2018 summer terms. However, when implementing the interventions in Phase II, the team made minor adjustments to account for the year-round Pell Grant, and to take into account feedback the team had solicited from students after the first summer term. Changes in Phase II included:

- A mention of year-round Pell in the informational campaign group communications, such as: “I have good news! I took some time to review your records and identified you as a student who will benefit from the new year-round Pell Grant policy!”
- Changing the planning tool from a postcard in Phase I to a letter mailed in an envelope in Phase II. The shift from postcard to letter was to account for students who said they did not remember the postcard.

What Was the Study Design?

The messaging design was based on consistent themes heard from students and a diagnosis of the barriers they faced (see Figure 10). However, the team didn't know for certain whether the interventions would succeed in increasing summer enrollment or by how much. To determine this, the team implemented a rigorous evaluation. As noted above, the evaluation included a diverse set of 10 Ohio community colleges. To evaluate the effectiveness of the two interventions, MDRC designed and executed a randomized controlled trial (see Figure 11). All degree-seeking, first-year, Pell-eligible students at each college were randomly assigned to one of three groups:

- 1** Students in the **control group** received the messages the college was already sending to promote summer enrollment and its standard financial aid.
- 2** Students in the **informational campaign group** received personalized communications delivered via email (up to seven messages) and mail (up to three messages) that incorporated behavioral science principles described above. The informational campaign's intent was to inform, simplify, and remind students about summer enrollment, and to motivate them to register.
- 3** Students in the **last-dollar tuition-assistance group** received a similar informational campaign plus last-dollar gap tuition called the Summer Scholar Grant. The value of the last-dollar grant was equal to the cost of tuition for summer courses that was not covered by a student's federal or state Grant financial aid (such as Pell Grant funding). For students in this group, summer was presented as tuition-free in the informational campaign.

In total, 10,668 students were randomly assigned to these three groups in equal proportions.¹⁰ The effectiveness of the interventions was estimated by comparing the average outcomes of students in each group.

The students in the study sample had diverse backgrounds and experiences. For example, 46 percent were financially independent of their parents, an important consideration given the role that financial assistance plays in the interventions. Around 49 percent enrolled part-time in the spring term, during which they were being encouraged to enroll in the summer; part-time enrollment is an indicator of the risk of not graduating. The summer may be a particularly important opportunity for part-time students, for whom the time it takes to earn a degree is inevitably longer than it is for full-time students.

10 An additional 37 students were randomly assigned but dropped from the sample because of ineligibility, and an additional 145 students (the entire sample at one college in the 2018 cohort) were dropped due to an implementation error. All decisions about removing students from the sample were made before running analyses. Dropped students were distributed evenly across the three research groups.

Figure 10. How the Student Experience Informed the Solutions Designed














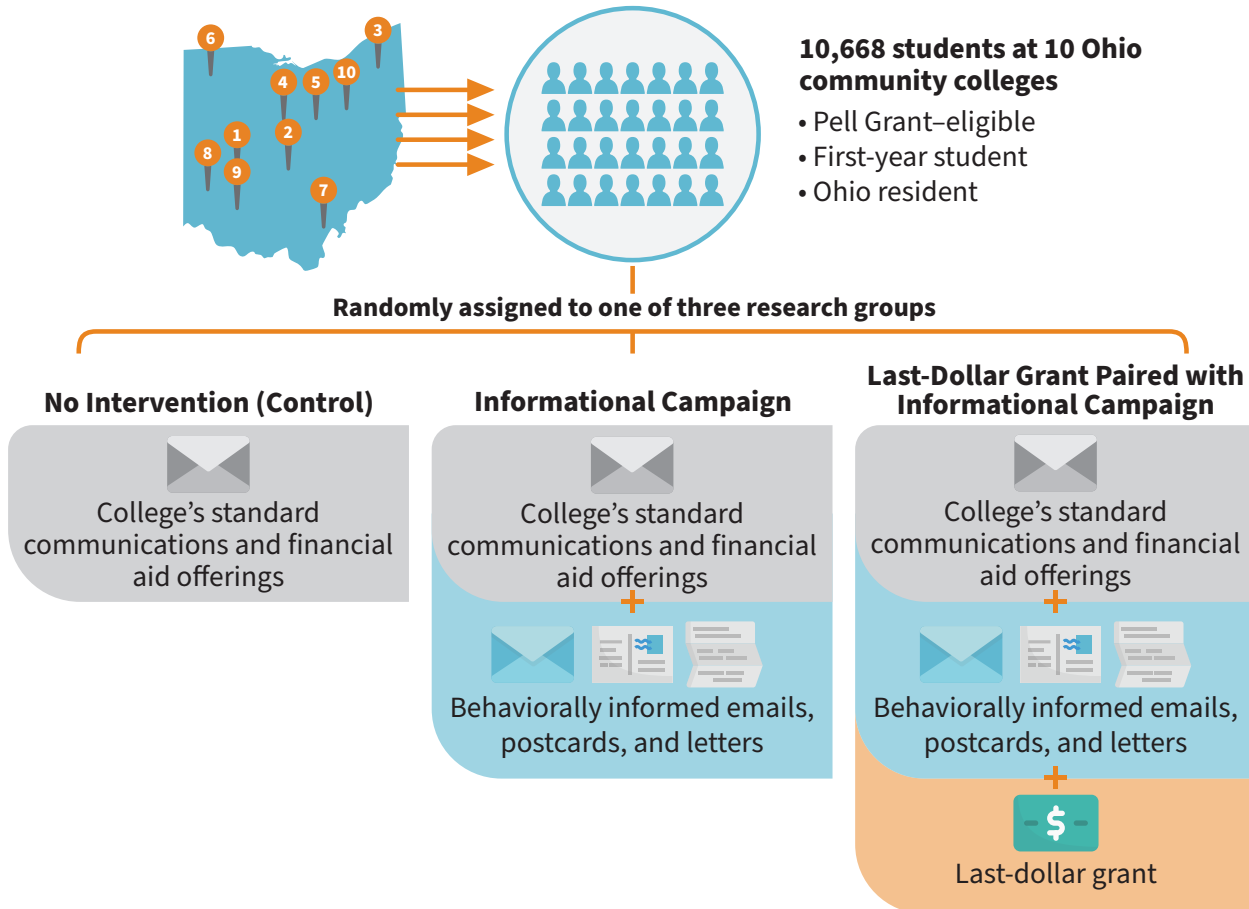
|  Themes Heard from Students |  Barriers Diagnosed |  Solutions Designed |
|---|--|---|
| <p>Students don't receive many communications about registering for summer semester, including from professors.</p> <p>Summer semester comes across as optional or "extra."</p> |  <p>Institutional & social norms Most students do not see summer as the norm and institutional/social factors do not promote summer courses.</p> |  <p>Normalize summer courses Use compelling imagery to convey that summer keeps you on track; skipping it could be a divergence.</p> |
| <p>Students are not sure whether financial aid is even offered for summer semester.</p> <p>Students don't know whether they have financial aid left to cover summer semester.</p> |  <p>Paying for summer courses Though most students are eligible for summer funding, many are unaware of this fact.</p> |  <p>Provide personalized aid information Let students know exactly how much aid they have left to pay for summer courses.</p> |
| <p>Summer is not included on students' degree plans.</p> <p>Courses offered in the summer are mostly prerequisites or general education classes.</p> |  <p>Degree planning & course decision-making Students may face difficulty selecting a summer course and decide not to enroll as a result.</p> |  <p>Provide assistance with course planning Help students identify the courses they need that are offered in the summer and how to register for them.</p> |
| <p>Between work and family, students feel they are too busy to take summer courses.</p> <p>Students with children need to care for them during the summer.</p> |  <p>Conflicting obligations Many students don't think they can work and take summer courses, given other responsibilities.</p> |  <p>Offer student testimonials Use testimonials from students describing their success balancing summer with other obligations.</p> |
| <p>Students may miss deadlines to register for summer courses.</p> <p>Students often don't have help planning for summer semester.</p> |  <p>Intention-action gap Some students intend to enroll in summer courses but do not actually follow through.</p> |  <p>Create planning tools Send communications with tools that help students bridge the gap between intention and action.</p> |

Figure 11. Study Design



RESEARCH QUESTIONS

The primary aim of the evaluation was to answer a few focused questions.¹¹ They included:

1 Did the interventions increase summer enrollment?

Because the last-dollar grant added cost, it was also important to know:

2 Was the more costly intervention more effective at increasing summer enrollment?

Because the summer 2017 cohort operated without year-round Pell funding and the summer 2018 cohort operated with year-round Pell, the research team also asked:

¹¹ The project's registered analysis plan is available at <https://osf.io/mryxh/>.

3 Did the policy shift to year-round Pell influence the effectiveness of the interventions?

In addition to addressing these primary questions, the team also explored questions about the following topics:

- The interventions' effects on progress toward a degree (using credits earned as a proxy for progress)
- The extent to which the interventions led to increases in fall enrollment
- The extent to which early positive effects faded out, were maintained, or grew
- The extent to which improvements in summer enrollment rates varied by types of students or colleges

What Were the Results?

EFFECTS ON ACADEMIC OUTCOMES

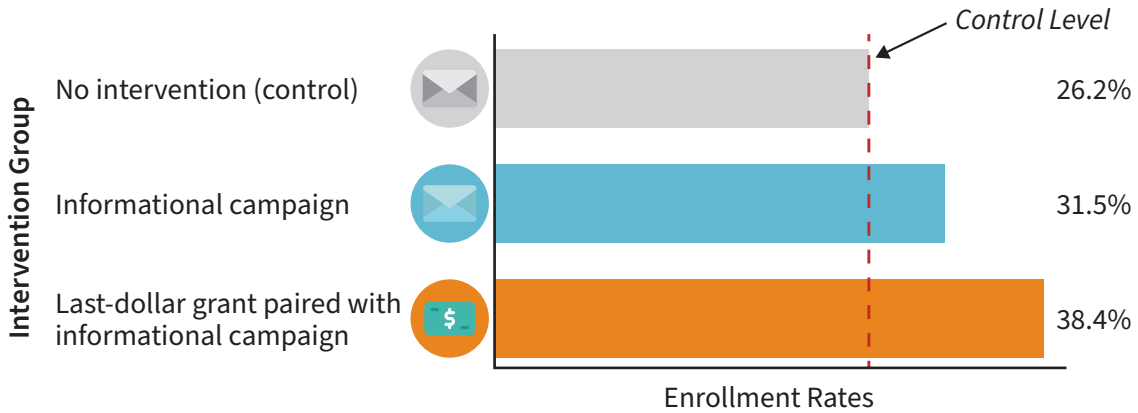
Both the 2017 and 2018 interventions achieved their primary aim — to increase summer enrollment. The addition of tuition assistance to the informational campaign more than doubled its effectiveness. Both interventions increased summer enrollment in the absence and in the presence of year-round Pell Grants and for multiple types of students — suggesting potentially generalizable results. Both interventions also led to small and sustained positive impacts on credit accumulation, bringing students closer to earning a degree. Neither intervention, however, had a positive effect on fall enrollment.

1 Did the interventions increase summer enrollment?

YES. Both interventions caused more students to enroll in the summer. In the absence of any intervention, 26 percent of students enrolled in the summer. The informational campaign increased summer enrollment by 5 percentage points, to 32 percent. The last-dollar grant paired with the informational campaign increased summer enrollment by 12 percentage points, to 38 percent (see Figure 12).

The increases in summer enrollment rates have meaningful implications for students at colleges implementing these strategies. For example, at a college like Clark State Community College, which is a midsize college that served 596 Pell-eligible first-year students in summer 2018, the more costly intervention would translate to an additional 72 students enrolling in the summer (if offered to all eligible students). At Columbus Community College, which served 2,465 Pell-eligible first-year students in summer 2018, the results for student enrollment would be even larger: The more costly

Figure 12. Summer Enrollment Rates



SOURCE: MDRC calculations from transcript data provided by program sites

intervention would translate to an additional 296 students enrolling in summer (if offered to all eligible students).¹²

2 Was the more costly intervention more effective?

YES. By adding a last-dollar grant to the already effective informational campaign, summer enrollment increased by an additional 6 percentage points, from 32 to 38 percent. As discussed in detail below, the addition of the last-dollar grant was low-cost — just \$63 per student¹³ — in part because Pell Grants and state aid covered some or all tuition costs for most Pell-eligible summer enrollees. Moreover, increased enrollment meant more revenue for colleges.

3 Did the reinstatement of year-round Pell Grants influence the effectiveness of the interventions?

NO. The interventions had similarly positive effects in the presence and absence of year-round Pell. This means that the interventions were effective strategies for colleges to try regardless of the policy context around year-round Pell. This project included two cohorts of first-year students: a spring 2017 (n=3,689) cohort, and a spring 2018 cohort (n=6,979) cohort. In between the two, the federal government reinstated year-round Pell Grants, providing additional access to students who had exhausted their Pell funding in the fall and spring semesters. This meant that students who were eligible for a maximum Pell award of \$5,815 per year would now be eligible for additional money that could bring their total to \$8,722. Would the informational campaign intervention be more effective now that students had additional dollars to pay for summer courses, or would it be

¹² These numbers are estimates and assume that the interventions’ effects at these colleges are equal to the overall average effect. These examples are intended to be illustrative.

¹³ This was the cost per student pooled across both cohorts. For the second cohort, when year-round Pell was available, the cost was \$44 per student.

ineffective because all students (including the control group) would be inundated with new messages about year-round Pell, drowning out the campaign? Would the addition of a last-dollar grant no longer have value since all students now had access to at least some financial aid? Should the team change the interventions, given this directly relevant policy shift? After lengthy discussion, the team decided to keep the interventions largely the same and see what happened.¹⁴

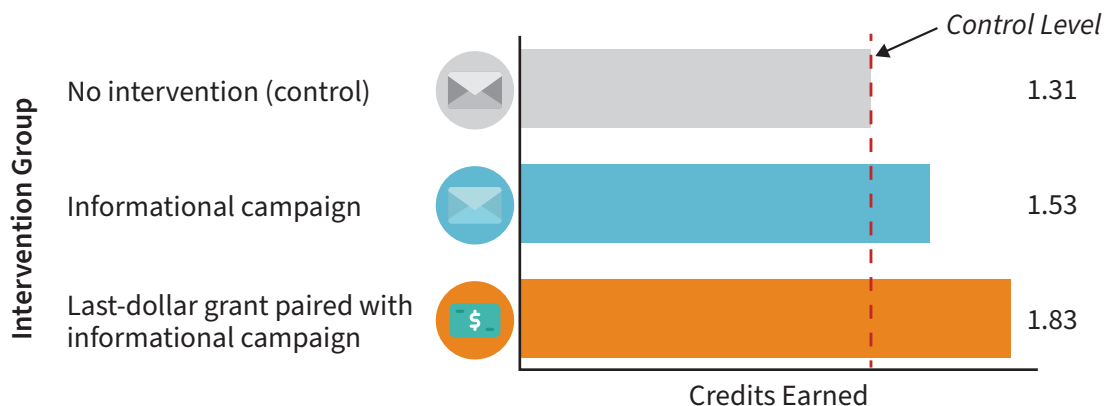
In the end, the estimated effect of the informational campaign on summer enrollment was nearly identical across the two cohorts. The estimated effect of the last-dollar grant paired with an informational campaign was slightly lower in magnitude with year-round Pell in place, but not discernably different.¹⁵ **In sum, the effectiveness of these interventions held up to a major shift in highly relevant federal policy** — a strong sign for the broader generalizability of findings.

With the primary research questions answered, several secondary questions remained.

■ Did the interventions help students' progress toward earning a degree?

YES. Increasing enrollment rates is great for colleges, which need to hit enrollment targets to generate enough revenue to continue operating. But for colleges and students alike, enrollment is just the starting point. Students must earn credits to progress toward a degree. Both interventions caused students to earn more credits in their first summer (see Figure 13). Without the EASE interventions, students earned an average of 1.31 credits in their first summer. Keep in mind that this was the average across all students, even those who attempted zero credits. The informational campaign increased this rate by 0.22 credits (a 17 percent increase) to 1.53 credits. The informational campaign paired with a last-dollar grant increased this rate by 0.52 credits (a 40 percent increase) to 1.83 credits.

Figure 13. Summer Credits Earned



SOURCE: MDRC calculations from transcript data provided by program sites.

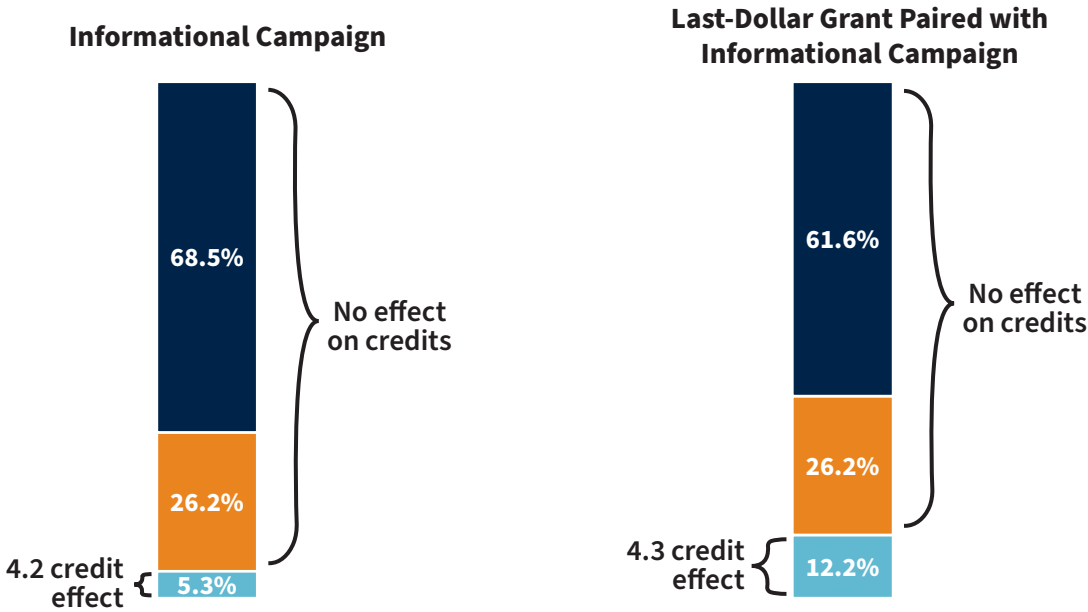
¹⁴ The team made changes to the informational campaign referencing year-round Pell.

¹⁵ This statement is acknowledging estimation error.

Another way to consider the interventions’ impact on students’ progress toward a degree is to look at whether the interventions caused more students to complete *at least one* summer course. Here again, the answer was “Yes.” Among all control group members, 21.9 percent passed at least one class in their first summer. The informational campaign increased this rate by 3.9 percentage points to 25.8 percent. The last-dollar grant paired with the informational campaign increased this rate by 10 percentage points to 31.9 percent (see Appendix Table A.1.) **Both interventions caused more students to earn at least some credits in the summer.**

Pushing this a step further, how many additional credits, on average, were earned by the students who benefited from these interventions? As displayed in Figure 14, the team assumed that all effects on summer credits earned were concentrated among the students who were induced to to

Figure 14. Average Credit Impact Among Students Induced to Enroll in Summer



- = Students who do not enroll with or without intervention (impact must be 0)
- = Students who enroll with or without intervention (impact assumed to be 0)
- = Students induced to enroll by the intervention (impact on credits comes from this group)

SOURCE: MDRC calculations from transcript data provided by program sites.

NOTE: The light blue bars represent students induced to enroll in summer by the intervention. Among such students, the estimated effect on credits earned is calculated by dividing (a) the overall average impact on credits earned by (b) the percent induced to enroll in the summer. In the case of the information campaign this is $0.22/0.053 = 4.2$ credits earned.

In the case of the last-dollar grant paired with informational campaign this is $0.52/0.0122 = 4.3$ credits earned. The impact on credits earned for the informational campaign and last-dollar grant paired with informational campaign (0.22 and 0.52, respectively) are shown in Appendix Table A.1.

enroll in the summer.¹⁶ It seems likely, then, that the informational campaign caused 5.3 percent of students to earn an average of 4.2 credits that they would not have earned without the campaign (calculated as $0.22/0.053$). Similarly, the last-dollar grant paired with the informational campaign caused 12 percent of students to earn an average of 4.3 credits that they otherwise would not have earned (calculated as $0.52/0.122$). **Students induced by the interventions to enroll in summer passed one to two additional courses.** While the interventions' effects on overall average credits earned were small, for the subset of students who benefited from these interventions, the effects were meaningful.

The interventions' success in increasing summer credit accumulation occurred, in part, because students *attempted* more credits. But how did students fare when *induced* to attempt extra credits? What were their pass rates?

Summer course pass rates were 76 percent for the control group, 74 percent for students in the informational campaign group, and 75 percent for students in the last-dollar tuition-assistance group (see Appendix Table A.2). So, the intervention groups had lower pass rates. But this isn't an apples-to-apples comparison. Both interventions caused additional students to enroll in summer courses, making the composition of summer enrollees different across the three groups. One way in which summer enrollees could differ among the groups is in their pass rates before the relevant summer (that is, in the spring) — an indicator of prior performance. Spring pass rates among summer enrollees were 86 percent for the control group, 83 percent for the informational campaign group, and 82 percent for the last-dollar tuition-assistance group. This implies that students induced to enroll in summer were initially lower-performing than students who enrolled in the summer with or without an intervention. The upshot: **Considering the prior performance of summer enrollees, those induced to enroll in the summer performed fine.**

As a related aside, among all summer enrollees, pass rates were lower in the summer term than in the prior spring term. There are several possible reasons for this. Students may have been juggling more responsibilities in the summer such as child care, summer internships, and extra part-time work. It may also be that students took harder courses in the summer, or that the compressed time frame was more challenging for them.

■ Did students take courses that kept them on track for graduation?

YES. One concern at the outset of the study was that students would not have appropriate course options in summer that would help them make progress toward their degree requirements. A subset of students whose records were examined in detail were taking courses that were relevant to their major or required for graduation. The research team examined a random sample of 50 students at one college from the last-dollar tuition-assistance group. The team analyzed the students' declared majors (as of spring 2018) and transcript records from summer 2018. The team also reviewed the students' course records and compared them with the course catalog to see if the classes they took were listed as a part of their major's program requirements.

¹⁶ While plausible, it is also possible that some students who would have enrolled in the summer with or without the intervention earned more credits because of the intervention. This seems particularly feasible for the group that received a tuition waiver.

Of the 50 students examined, 48 attempted at least one course required for their degree; 38 passed (that is, earned a grade of A, B, C, D, or P) at least one course required for their degree; and 84 percent of the credits attempted by these students counted for their major (not shown). This suggests that students were able to take and pass courses that fulfilled their major requirements, an important marker of progress toward a degree.

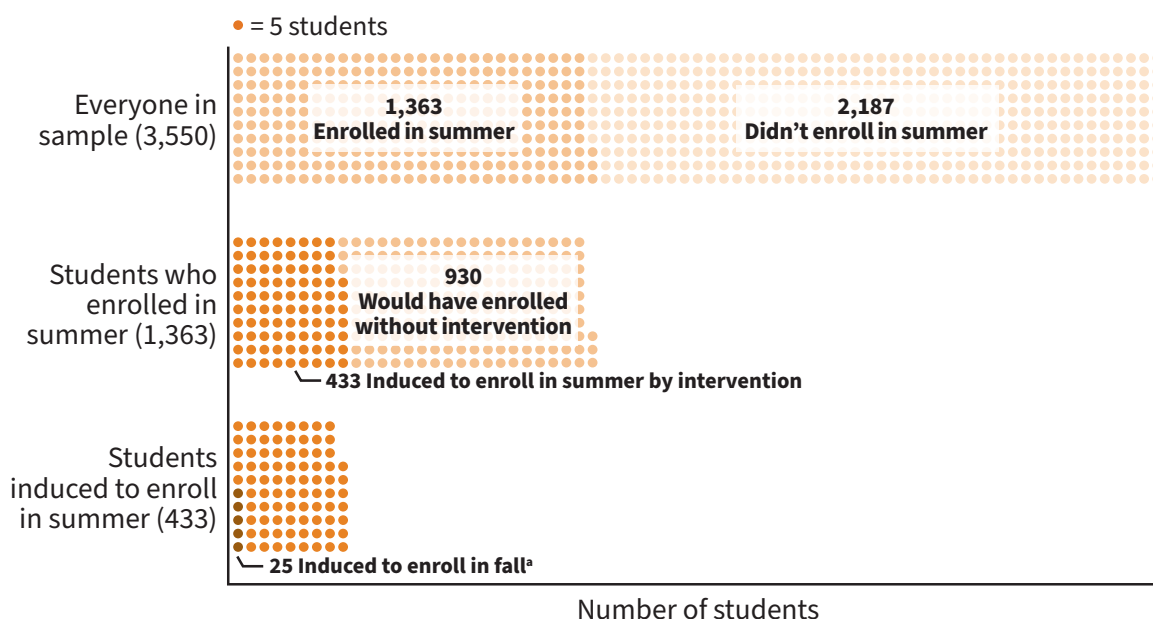
■ Did the interventions' success at increasing summer enrollment lead to increases in fall enrollment?

NO. Despite both interventions increasing summer enrollment, fall enrollment levels were unaffected by them. Without the EASE interventions, 54.7 percent of students enrolled in the fall, compared with 54.8 percent of those who were offered the informational campaign, and 55.4 percent of those who were offered the last-dollar grant paired with the informational campaign (see Appendix Table A.1). These differences are neither practically meaningful nor statistically significant. So, what happened? Why didn't increased summer enrollment cause increased fall enrollment?

Without enormous effects on summer enrollment, it's unlikely that increasing summer enrollment alone will lead directly to substantively meaningful increases in fall enrollment. Figure 15 provides a visual depiction of the funnel that creates this challenge. Some 1,363 students who were offered the last-dollar grant paired with the informational campaign (or 38.4 percent of the total sample

Figure 15. Why an Increase in Summer Enrollment is Not Expected to Lead to a Substantial Increase in Fall Enrollment

(Last-Dollar Grant Paired with Informational Campaign Example)



NOTE: ^aBased on past research on academic momentum, 71 students would be predicted to be induced to enroll in fall.

of 3,550) enrolled in summer. This included 930 students, or 26.2 percent of the total sample, who enrolled with or without the informational campaign; and 433 students, or 12.2 percent of the total sample, that the intervention caused to enroll in summer. If students induced to enroll in summer are 16 percentage points more likely to enroll in fall (as some past research on academic momentum suggests), then one would only expect an additional 1.9 percentage point increase in fall enrollment rates (16 percent of 12.2 percentage points).¹⁷ This equals 71 additional fall enrollees.

However, the estimated effect on fall enrollment was 0.7 percentage points, smaller than the predicted 1.9 percentage points. This might mean that summer enrollment bridges the gap less than past research suggests; but more importantly, it shows that increasing summer enrollment alone is unlikely to substantially increase fall enrollment. **Therefore, the main benefit of these interventions is to increase summer enrollment and credit accumulation — they don't meaningfully help with fall retention.**

■ **Did the early positive effects of the interventions fade out? Did they grow? Were they maintained?**

The effects of the interventions were maintained. Since the interventions did not boost fall enrollment, one might wonder whether the control group “caught up.” That is, what happened to the positive credit gain these interventions caused? As noted earlier, the average effect on credits earned during the first summer was 0.22 more credits for the informational campaign group, and 0.52 more credits for the last-dollar tuition-assistance group. A year later, at the end of the second summer, the average effects on cumulative credits earned were 0.21 and 0.51 for the same two groups, respectively (see Appendix Figure A.1). In the case of the informational campaign group the result was not statistically significant (because the precision of the estimated effect decreased over time); however, there is no evidence of fade-out, since the effect estimates were basically identical at the end of the first and second summers. Both interventions increased credits earned during summer 2017, and these effects remained present one year later.

Students in the evaluation first enrolled in college during the fall or spring prior to the intervention summer. For those who first enrolled in fall, the end of the second summer represented two years after entering college. For those who first enrolled in spring, the end of the second summer was one semester shy of two years after entering college. Given the duration of follow-up, it is premature to expect effects on degree completion, and the data match this expectation; there is no compelling evidence of an effect on degree completion. Given the positive effect on credit accumulation combined with the parallel logic explained above about why fall enrollment is so hard to increase, it seems unlikely that these interventions alone will even modestly increase graduation rates, even with longer-term follow-up. Rather, these interventions are compelling because they help students make academic progress, they are low-cost, they have strong potential for being expanded to other states, and it seems plausible that they, in combination with other reforms, could help improve graduation rates.

¹⁷ Attewell, Heil, and Reisel. (2012).

■ Were the interventions effective at increasing summer enrollment for different types of students?

The interventions increased summer enrollment for each subgroup examined. The findings presented thus far have been estimates of the overall average effects of the interventions. But interventions can have different effects for different types of students. Based on data availability (see Appendix Table A.3 for detailed results), each intervention's effects were estimated for the following subsets of students:

- Expected Family Contribution (EFC = 0 or EFC > 0)
- Race/ethnicity (White, Black, Hispanic, Multiracial, or Other)
- Pell funds remaining for use in summer (yes or no)

The estimated effect of the informational campaign was positive for all subgroups of students examined.¹⁸

The estimated effect of the last-dollar grant paired with the informational campaign was large and positive for all students.¹⁹ The addition of the last-dollar grant appeared to be especially beneficial for students with an EFC > 0. The reason, the team hypothesized, was that as students' EFC increased, they were eligible for smaller Pell Grant awards; consequently, the monetary value of the last-dollar grant provided by the college increased to cover the difference. Examined through an equity lens, this finding raises important questions.

All students in this project were Pell recipients. This indicates that the federal government deemed them as having financial need. Students with an EFC = 0 were considered to have the greatest financial need. For those students, the last-dollar grant paired with the informational campaign increased summer enrollment by an estimated 9.7 percentage points. For those with an EFC > 0, the estimated effect was 16.8 percentage points. While the intervention benefited both groups, it benefited those with less financial need more. Typically, this would mean exacerbating an existing equity gap since students with greater financial need tend to perform worse academically. Interestingly, in the absence of the interventions, students in this study with EFC = 0 enrolled in summer at slightly higher rates than students with EFC > 0. That is, there was no traditional equity gap on this outcome measure. The intervention flipped the direction of the difference so that students with EFC > 0 were now 4.4 percentage points *more* likely to enroll in the summer. Within the subpopulation of Pell-eligible students, the intervention did not improve equity with respect to financial-need-based achievement gaps.

Taking a broader perspective and considering all students in the colleges (not just Pell-eligible students), the last-dollar grant paired with the informational campaign may be a useful strategy to mitigate inequity. Since students with the least financial need (that is, those who were not Pell

¹⁸ In all but two instances (students in the multiracial subgroup or with no Pell funding remaining), the estimated effect was statistically significant.

¹⁹ In all instances the estimated effect was also statistically significant.

recipients) were not offered the interventions, they were unlikely to be affected by them. Thus, by targeting Pell recipients and having a positive effect on their summer enrollment, the interventions must have reduced the achievement gap between Pell recipients and students who didn't receive Pell Grants.

In sum, the evidence suggests that both interventions had positive effects for several different types of students. This is encouraging.

■ Did the effect of the interventions vary across colleges?²⁰

NO AND YES. The effect of the informational campaign did not appear to vary across colleges, but the effect of the last-dollar grant paired with the informational campaign may have varied across colleges. An intervention that works at one college may not necessarily work at another one. Such variation in effectiveness can occur because of differences in intervention implementation, context, student population served, or alternative services offered.²¹ A strength of this study is that it took place at 10 colleges. Because of this, it was possible to test whether the interventions' effects on summer enrollment varied among the different schools.

For the informational campaign, there is no evidence that effects on summer enrollment varied across colleges. **The best estimate is that the informational campaign consistently increased summer enrollment by around 5 percentage points.** Given this, it's unsurprising that effects were positive whether a college's financial aid calendar was a header or a trailer²² and whether the college was large (more than 1,000 students in the sample) or small (less than 1,000 students in the sample).

Considering the diversity of colleges in the study and the consistency of this finding, this suggests that the results would likely apply to similar colleges elsewhere. An important caveat is that all 10 colleges were in Ohio, which means they shared the same state policy context. To the extent that the state policy context may influence the effectiveness of the informational campaign, the results may not apply quite so broadly.

The last-dollar grant paired with the informational campaign increased summer enrollment at all colleges. But there is some hint that the interventions' effectiveness varied across colleges. One college characteristic that was associated with larger-than-average effects was being a trailer college — that is, a college where summer was the last term in the financial aid year. The estimated effect on summer enrollment at trailer colleges was 13.7 percentage points, compared with 8.8 percentage points at header colleges. One possible explanation is that the language used to describe

²⁰ This project's analysis plan included two exploratory subgroups that are not included here: (1) communication mode and (2) strength of control message. The first subgroup was intended if there was a clear divide among colleges where some used the planned emails, letters, and postcards, and others used an additional communication mode such as text messaging. Only a few colleges used a third mode, and that mode varied. The second subgroup was intended to examine whether the effectiveness of the intervention depended on what it was being compared with — that is, what messages the college was already sending to the control group. Upon examination, there was not much variation in control group messages. Due to the above, the research team never conducted these analyses.

²¹ Weiss, Bloom, and Brock (2014).

²² That is, whether the financial year began in the summer (header) or fall (trailer) term.

the last-dollar grant was simpler at trailer colleges; at header colleges, where the first term of financial aid starts in the summer, messages had to reflect the difference in financial aid structure. The estimated effect of the last-dollar grant paired with the informational campaign was very similar at large colleges compared with small colleges. Again, given the diversity of colleges in the study and the universally positive effects, this suggests that the results will likely apply to similar colleges elsewhere, with the same caveat as above.

How Did Colleges Implement the Interventions?

MDRC conducted qualitative research to understand how the informational campaigns and last-dollar grants were implemented, how students experienced the interventions, and the feasibility of implementation. Implementation research after Phase I focused on the student experience, in order to refine the design of the informational campaigns for Phase II, when the strategies would be expanded to more colleges and to more students in Ohio. Implementation research after Phase II focused on understanding whether the study and interventions were implemented as designed. Below is a discussion of the key questions and findings. Colleges interested in detailed information on how to implement the messages and copies of the complete informational campaigns can see an earlier MDRC publication called the [EASE Handbook for Community Colleges: Encouraging Additional Summer Enrollment](#).²³

■ How did students experience the interventions?

Following Phase 1, the team called students in the three study groups to understand their experience with the messaging and the last-dollar grant for the summer term. Three key findings emerged:

- 1 Students were more likely to remember the mailed letter.** When asked if they received specific communications about summer courses, many students indicated that they were selective about which emails they opened. Following Phase I, student interviewees were more likely to recall the mailed financial aid letter than the other messages. This may be because many colleges typically rely on email to communicate with students and mailed letters are uncommon. The introduction of a mailed letter and the fact that the letter was from the financial aid department — one that students feel is important — may have made them more likely to read or recall it.
- 2 Students were less likely to remember the postcard.** Many student interviewees had no recollection of the postcards. This finding is noteworthy because in prior behavioral science studies, postcards helped to encourage action because recipients did not have to open an

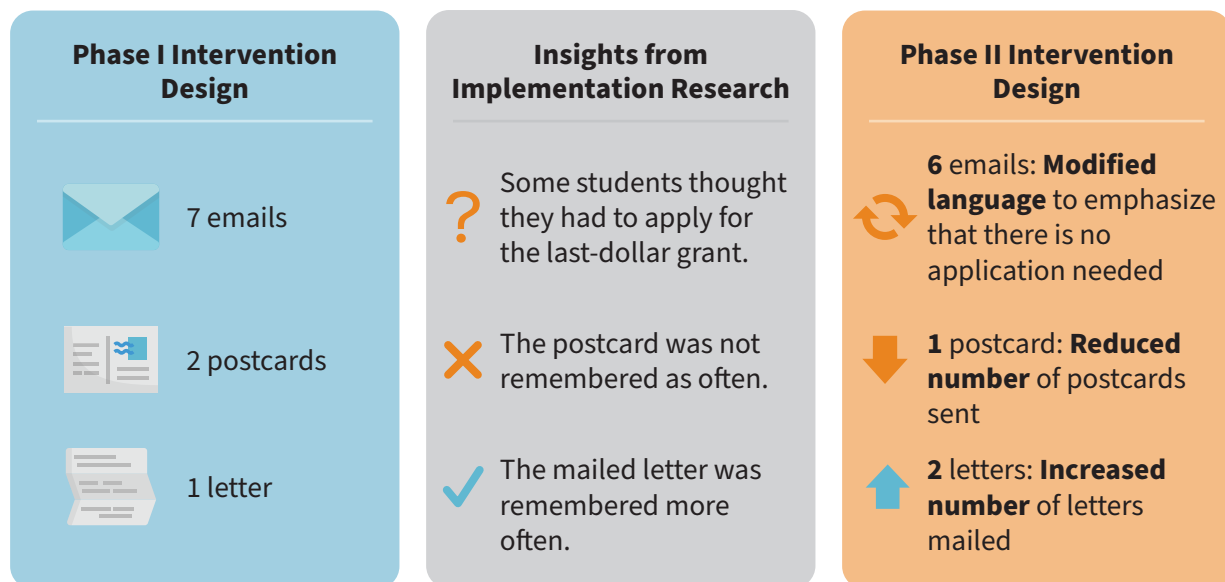
²³ Headlam, Cohen, and Reiman. (2020).

envelope to receive the message. It may be that students didn't recall the postcards because the postcards were perceived of as junk mail.

- 3 Some students thought they had to apply for the tuition Grant.** The team found that many student interviewees who were offered the Summer Scholar Grant thought it was a merit-based scholarship that required an application or a minimum GPA. This was not the case: All students in the intervention group were offered the Grant and would have received it had they enrolled in summer courses.

This information was helpful in refining the design of the intervention for Phase II. Figure 16 describes how MDRC updated the informational campaign using the implementation research findings.

Figure 16. How Phase I Implementation Research Informed Phase II



■ What staffing was needed for the interventions? How were the two strategies implemented?

To implement the EASE strategies, colleges formed teams to work with MDRC. The implementation teams varied by college. Some teams were large and included staff members from several departments on campus, including student success or enrollment, financial aid, and advising. In other colleges, the teams were small and consisted of just one or two people — typically the lead coordinator and a financial aid professional.

■ **Were colleges able to implement the informational campaigns as planned? What was easy to implement? What was challenging to implement?**

The informational campaigns were implemented with medium to high fidelity to the original plan. Six out of 10 colleges sent all of the messages in the campaigns. The remaining four colleges did not send one or two of the messages. While the messages were designed to be customized, a few colleges made major changes to the content of one or two messages in the campaign.

The messages that did not include personalized information other than students' names were the easiest to implement. The messages that included personalized Pell Grant estimates and summer course recommendations were the most difficult to implement. In particular, the message that provided students with specific course recommendations based on their majors and course-taking histories was the most difficult for colleges to execute. Only four colleges sent specific course recommendations to students. Two of the remaining six colleges elected not to send this message and the other four colleges used alternate strategies to help students select summer courses. Three of these colleges grouped students by major and sent them a general list of courses that students in that major could take during the summer. One college recommended that students see an advisor for specific course recommendations. Providing specific course recommendations to students is a potentially powerful tool, and the implementation of this message highlighted that many colleges do not have the appropriate technology to provide personalized course information to students.

■ **Was sending the informational campaign really that different?**

YES. The intervention messages were notably different from the colleges' standard communications in three main ways.

First, students in the two EASE intervention groups received many more messages about summer enrollment than students in the control group. Colleges typically sent two to three summer enrollment-related messages to the general student population. In contrast, colleges in the EASE study sent 7 to 10 messages related to summer enrollment to students in the intervention groups, in addition to any standard messaging.

Second, the content of the messages was different. Most of the colleges' standard messages (approximately two-thirds) focused on enrollment information such as registration opening, procedures, and deadlines, and most messages (about three-quarters) were solely informational — that is, they did not promote or encourage summer enrollment. Rather, the messages provided basic information without conveying reasons students should enroll. When the colleges' messages included behavioral principles, they typically were used for personalization or implementation prompts. The EASE messages, on the other hand, were not only informational but motivational. That is, they directly encouraged students to enroll in summer courses.

Finally, the colleges' standard messages typically covered one area at a time — for example, registration or financial aid — while the EASE messages combined registration and financial aid information. The study findings suggest that the content and the frequency of the EASE informational campaigns could have led to the positive impacts on summer enrollment.

It's important to note that while colleges sent more messages to students in the EASE intervention groups, students may not have received all of them. When the team surveyed students after Phase I, many students said they did not recall summer enrollment messages and some stated that they did not open all of their mail, especially email from their colleges. Although not a part of the study, one college tracked open rates for their messages and reported that about 50 percent of students opened the first message in the informational campaign, which was sent in late February. Following the first message, open rates declined, going as low as about 15 percent for the last message that was sent at the end of May.

What Did the Interventions Cost?

The informational campaign was estimated to cost an average of \$15 per student. The last-dollar grant paired with the informational campaign was estimated to cost an average of \$79 per student. These estimates provide a sense of the order of magnitude of the cost of these interventions. In addition, the cost per student varied by college.

ESTIMATING THE INTERVENTIONS' COSTS

Table 1 provides a detailed breakdown of the interventions' costs, separated into materials and staff time.²⁴ By sharing these line-item cost estimates, colleges interested in implementing EASE (or an EASE-like program) can begin to estimate what it would cost to implement at their school.

The top panel focuses on the material costs, including, paper, printing, stamps, and shipping. In the case of the last-dollar grant, material costs also include the cost of the last-dollar grant. The last-dollar grant in the study was paid for by the generous support of Ascendium Education Group, so it was not really a cost to the colleges, but it is still included as a cost. The material costs for the informational campaign are under \$2 per student. The material cost for the last-dollar grant is this same \$2 plus an additional \$63 per student for the last-dollar grant, for a total of \$65 per student. It's important to note that the cost of the last-dollar grant per student varied substantially across colleges, ranging from a low of \$3 per student to a high of \$130 per student. The cross-college differences are a result of differences in summer credits attempted, tuition costs, and Pell funds remaining. Also of note, for the second cohort of students who were offered the last-dollar grant when year-round Pell Grants were reinstated, the average last-dollar grant dropped to just \$44 per student. Given that current federal policy includes year-round Pell Grants, this may be the more relevant estimate of the cost of the last-dollar grant in today's context.

In addition to material costs, colleges dedicated staff time to implement these interventions. These staff members came from various departments, including student services, financial aid, and the registrar's office. The bottom panel of Table 1 estimates the cost of this staff time. This includes

²⁴ Research costs were excluded since they were considered a one-time expense that was particular to the evaluation.

Table 1. Costs of EASE Intervention – Full Sample

| DIRECT COST OF MATERIALS | COST PER STUDENT | NUMBER OF STUDENTS | INFORMATIONAL CAMPAIGN | COST PER STUDENT | NUMBER OF STUDENTS | TUITION + INFO CAMPAIGN |
|--|-------------------------|---------------------------|-------------------------------|-------------------------|---------------------------|--------------------------------|
| Planning letter and/or postcard | | | | | | |
| Paper and printing | \$0.02 | 3,565 | \$71 | \$0.02 | 3,550 | \$71 |
| Stamps | \$0.55 | 3,565 | \$1,961 | \$0.55 | 3,550 | \$1,953 |
| Financial aid letter | | | | | | |
| Paper and printing | \$0.02 | 3,565 | \$71 | \$0.02 | 3,550 | \$71 |
| Stamps | \$0.55 | 3,565 | \$1,961 | \$0.55 | 3,550 | \$1,953 |
| Cost-benefit postcard | | | | | | |
| Paper and printing | \$0.10 | 3,565 | \$340 | \$0.10 | 3,550 | \$340 |
| Shipping | \$0.03 | 3,565 | \$107 | \$0.03 | 3,550 | \$107 |
| Stamps | \$0.55 | 3,565 | \$1,961 | \$0.55 | 3,550 | \$1,953 |
| Email communications (10) | | | | | | |
| Last-dollar grant^a | | | | | | |
| Disbursements to students | NA | NA | NA | \$63.00 | 3,550 | \$223,650 |
| TOTAL COST OF MATERIALS | \$1.82 | | \$6,472 | \$64.82 | | \$230,096 |

(continued)

Table 1 (continued)

| | STAFF HOURLY RATE | STAFF HOURS FOR TASK | NUMBER OF COLLEGES IMPLEMENTING ACROSS BOTH PHASES | INFORMATIONAL CAMPAIGN | STAFF HOURLY RATE | STAFF HOURS FOR TASK | NUMBER OF COLLEGES IMPLEMENTING ACROSS BOTH PHASES | TUITION + INFO CAMPAIGN |
|--|-------------------------|----------------------------|--|----------------------------|-------------------------|----------------------------|--|----------------------------|
| STAFF COSTS | | | | | | | | |
| Planning letter and/or postcard | | | | | | | | |
| Time to print, fold, and mail | \$41.40 | 6 | 14 | \$3,478 | \$41.40 | 6 | 14 | \$3,478 |
| Financial aid letter | | | | | | | | |
| Time to merge Pell estimation in letter | \$41.40 | 6 | 14 | \$3,478 | NA | NA | NA | NA |
| Time to print, fold, and mail | \$41.40 | 8 | 14 | \$4,637 | \$41.40 | 8 | 14 | \$4,637 |
| Cost-benefit postcard | | | | | | | | |
| Time to mail | \$41.40 | 2 | 14 | \$1,159 | \$41.40 | 2 | 14 | \$1,159 |
| Email communications (10) | | | | | | | | |
| Time to send emails | \$41.40 | 20 | 14 | \$11,592 | \$41.40 | 20 | 14 | \$11,592 |
| Time to merge Pell estimation into one email | \$41.40 | 4 | 14 | \$2,318 | NA | NA | NA | NA |
| Time to calculate course recs in email | \$41.40 | 8 | 14 | \$4,637 | \$41.40 | 8 | 14 | \$4,637 |
| Last-dollar grant | | | | | | | | |
| Time to disburse the aid | NA | NA | NA | NA | \$41.40 | 20 | 14 | \$11,592 |
| Overall staff coordination/management | \$41.40 | 24 | 14 | \$13,910 | \$41.40 | 24 | 14 | \$13,910 |
| Total staff costs per campaign | | | | \$45,209 | | | | \$51,005 |
| TOTAL STAFF COSTS PER STUDENT | | | | \$12.68^b | | | | \$14.37^b |
| TOTAL MATERIALS AND STAFF COSTS PER STUDENT | | | | \$14.50 | | | | \$79.18 |

NOTE: Staff hourly rate comes from the CBCSE Cost Tool Kit (2015) developed by the Center for Benefit-Cost Studies of Education, Teachers College, Columbia University. In Ohio the tool estimates an hourly rate of \$28.10 with a benefit rate of 53.85 percent for “Academic advisor/counselor – Junior Colleges.”

NA = \$0 or not applicable.

^aThe last-dollar grant is included as a material cost.

^bThe total staff costs per student is the sum of the total staff costs for each campaign divided by the number of students in each intervention arm.

time for printing, folding, and mailing letters; merging estimates of remaining Pell funds into the financial aid and email communications; and so on. In addition, staff costs incorporate time for overall coordination and management. The per-student cost associated with staff time was around \$12 to \$14 per student.

MDRC did not ask college staff members to keep detailed time logs tracking the hours spent implementing these interventions. Rather, the estimated staff hours for each task are an educated guess based on conversations with staff members, notes from interviews, and feedback from the staff regarding initial estimates. Colleges considering implementing these interventions may want to consider the hourly pay rates at their school and the estimated time they expect it will take to complete each task.

Also of note is the fact that the per-student costs of staff time varied across colleges, owing in part to the different size of each institution. Much of the staff time is fixed, so per-student costs decreased as colleges served more students. In addition, colleges varied in terms of how they implemented the interventions. Some involved large numbers of staff and others used a streamlined process, resulting in differences in hours spent implementing the interventions. Finally, the team did not estimate the cost associated with additional credits that students attempted as a result of the interventions. If enough additional students enroll in summer, a college is likely to incur additional costs, for example, to hire additional instructors.

How Much Additional Revenue Did the Interventions Generate for the College?

The informational campaign generated an estimated \$48 to \$69 per student in additional revenue for the college. The last-dollar grant paired with the informational campaign generated an estimated \$105 to \$155 per student in additional revenue for the college. (See Appendix Table A.4.) Much like the costs, these estimates are not exact, and they vary across colleges, but they provide a sense of the order of magnitude of the revenue generated by these interventions. Moreover, these numbers suggest that the revenue generated by these interventions exceeded the cost to operate them.

EASE INTERVENTIONS INCREASE TUITION AND STATE REVENUE FOR COLLEGES

Both interventions increased the number of credits students attempted during their first summer after enrolling in college. The informational campaign caused an additional 0.35 credits attempted and the last-dollar grant paired with the informational campaign caused an additional 0.75 credits attempted. Across the 10 colleges in the study, tuition prices averaged approximately \$143 per credit. Thus, the informational campaign's boosting of credits attempted generated an additional

\$48 per student in tuition revenue for the college, or $0.35 \times \$143$. The more costly intervention led to \$105 per student in additional tuition revenue for the college, or $0.75 \times \$143$.²⁵

Tuition is only one source of additional revenue colleges may receive as a result of these interventions; colleges may also receive more state funding. Ohio's state funding formula, for example, is performance-based: Colleges can receive additional revenue based on student academic outcomes, including outcomes that these interventions had an impact on, such as credit accumulation.²⁶ The team estimates that Ohio's state funding formula provides approximately \$98 per credit earned. Thus, the informational campaign's boosting of credits earned generated \$22 per student in additional state funding, or $0.22 \times \$98$. The more costly intervention led to \$51 per student in additional state funding, or $0.52 \times \$98$. These estimates are likely too small since they do not consider state funding associated with completing remedial classes, meeting credit benchmarks (that is, earning 12, 24, and 36 credits), degree and certificate attainment, or transfers. Effectively, the interventions were assumed to have no impact on those outcomes.²⁷

A POSITIVE RETURN ON INVESTMENT FOR COLLEGES

Both interventions generated more revenue than their costs. The mission of most colleges is not to make money, and the sole goal of college programs or policies is not to see a positive return on investment. However, a program or policy that is beneficial to students, helps colleges fill seats and meet performance goals, and raises more revenue than it costs seems worthy of consideration. Figure 17 presents estimates of the revenue minus costs for each intervention. As shown, the informational campaign increased revenue by \$34 or \$55 *per student* (depending on whether state funding was included). The last-dollar grant paired with the informational campaign increased revenue by \$27 or \$76 *per student* (again, depending on whether state funding was included).

The positive return on investment has important implications for a college implementing these strategies. For example, at a school like Marion Technical Community College, which is a small college that served just over 200 Pell-eligible first-year students in summer 2017, the more costly intervention is estimated to generate \$15,200 in additional revenue after accounting for cost, if offered to all eligible students (including state aid). At Sinclair Community College, which served around 1,500 Pell-eligible first-year students in summer 2018, the potential revenue is even larger—the more costly intervention is estimated to generate \$114,000 in additional revenue after accounting for cost, if offered to all eligible students (including state aid).²⁸

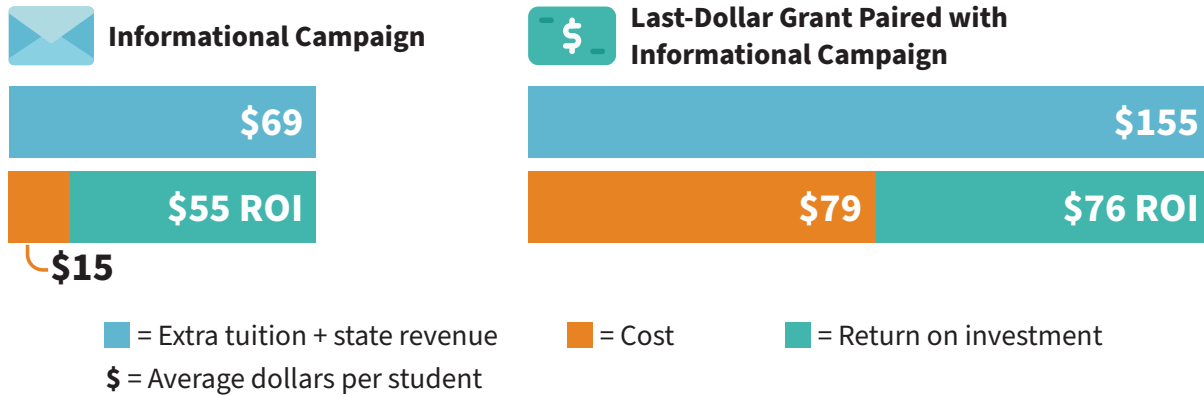
25 Multiplication values are not exact, since tuition varied across colleges and estimated impacts were not the same among the colleges.

26 Performance funding in Ohio is zero-sum, meaning that the pot of dollars is fixed. Consequently, if all colleges improve their outcomes, it's possible that no college would receive any additional money. This is not necessarily a limitation for the revenue estimates presented here because they are relative to the counterfactual, in which EASE is not implemented at the college. Thus, even if EASE is implemented and no additional state funding is received because other colleges improved outcomes at the same rate, the dollar amounts presented herein represent the funding that EASE prevented the institution from losing.

27 Here, too, multiplication values are not exact, since tuition varied across colleges and estimated impacts are not the same among the colleges.

28 These numbers are estimates and assume that the interventions' effects at these colleges are equal to the overall

Figure 17. Return on Investment from Each Intervention



NOTE: Rounding may cause slight discrepancies in sums and differences.

Have These Strategies Been Sustained and Expanded by Colleges?

In the year following the intervention portion of the research study, most colleges reported that they continued interventions in some form. One college continued both the informational campaign and the last-dollar grant. Five colleges sent some of the messages in the informational campaign to encourage summer enrollment. Notably, colleges did not continue the messages that provided students with personalized Pell Grant estimates and course recommendations. This suggests that the effort required to create these messages may have been a barrier to full sustainability of the strategies.

Importantly, colleges reported that participation in the EASE project has had an impact on the way they communicate with students. An administrator from one college, for example, noted that the project led the college to consistently use students’ names in communications and not start emails with “Dear Student.” Another college began incorporating the behavioral science principles used in the EASE informational campaigns into a larger nudge campaign aimed at promoting student enrollment for all semesters.

average effect. These examples are intended to be illustrative.

Toward the end of the project, the Ohio Association of Community Colleges offered planning Grants to community colleges in the state to help them determine ways to institutionalize the EASE strategies into their annual operations to increase summer enrollment.

What Are the Project Implications?

BENEFITS FOR BOTH STUDENTS AND COLLEGES

Students made progress toward their goals by earning credits in the summer, received additional Pell funding by enrolling in summer courses, and in the case of the last-dollar grant, received scholarship dollars. At the same time, colleges made progress in their goal of helping students achieve their academic pursuits, increased enrollment rates by filling seats during a term when enrollment rates are low, and increased revenue at a rate that exceeded the cost of the interventions. The interventions are cost-effective, have a positive return on investment, and are scalable. In these ways, these interventions are a win-win. The findings may contribute to larger initiatives taking place at individual institutions and inform higher education policy at the local, state, and national levels.

The informational campaign demonstrates that nudges worked to encourage more students to enroll in summer. The team has publicly released the full messaging content in the EASE Handbook for Community Colleges mentioned earlier. The main considerations for colleges may be staff time available to implement the messaging campaign and tuition-assistance Grant and a project manager to ensure the interventions are launched and implemented on time.

The last-dollar grant paired with the informational campaign was even more effective than the informational campaign alone, but it costs more. This is in line with what many would expect, but there are some nuances worth discussing. First, it's encouraging to know that the total cost of the Grant was quite small, on average. Notably, many students with an EFC = 0 did not need the last-dollar grant because they were already fully covered by their Pell Grant. Interestingly, the last-dollar grant with informational campaign was still more effective than just the informational campaign for EFC = 0 students. This may be due to the simplicity of the message: "You are fully covered in summer!"

Both interventions increased the summer enrollment rate, and as a result, students earned more credits — a sign of improved academic outcomes. The effects on credit accumulation were modest in magnitude, as one might expect from light-touch, low-cost interventions. Thus, it is unlikely that these modest, short-term effects will lead to meaningful impacts on degree or certificate completion (the follow-up is too short to say for sure). Without very large effects on summer enrollment rates, it seems unlikely that any intervention aimed solely at increasing summer enrollment rates will increase degree completion by more than a percentage point or two. The main effect of increasing summer enrollment is to help some students earn credits during the summer, credits that are the building blocks toward earning a degree. Nonetheless, as colleges develop new programs

or implement reforms like guided pathways, incorporating EASE as one component in a broader program or a concrete component in a principled reform seems worthy of strong consideration.

MORE SIMPLIFICATION TO FINANCIAL AID DELIVERY IS NEEDED

Pell Grants from the federal government help lower-income students pay for college by supplementing the cost of tuition. However, the diagnosis of the barriers to summer enrollment conducted in the EASE study showed that the availability of financial aid was not always easy to understand. Students who had aid available for summer through their Pell Grant didn't always know that they had it. EASE messaging was designed to directly inform students of how much Pell they had for each level of enrollment — an example of using behavioral science to deliver simplified information about a federal policy.

The lessons from the EASE study could be applied to how colleges approach fall and spring aid as well. Many of the financial aid complexities examined were not specific to summer, even though that was the focus of the study. The Pell Grant calculator tool MDRC developed in collaboration with the Ohio colleges could be utilized all year to help students understand how different enrollment choices might impact their funding amounts. In analyses of administrative financial aid data, the team simulated how different scenarios might play out for students. For example, a student choosing to enroll in 9 or 11 credits for a semester would receive the same Pell dollar amount because both of those credit levels are considered “three-quarter time,” even though the tuition and other costs are different. Taking a user-centered approach to the entire financial aid system within a college may be a useful exercise.

ELEVATING THE STUDENT PERSPECTIVE IN INTERVENTION DESIGN

The team's diagnosis showed that students face multiple barriers to summer enrollment — from inadequate information about available financial aid and course options to a lack of childcare and financial resources. This project aimed to find solutions based on the students' own experiences and used a specific approach to problem-solving that focused on collecting information from students and colleges. This approach could be applied to a wide range of challenges that colleges and state agencies hope to address. It keeps the student perspective at the center of the process and may lead to new solutions for entrenched problems.

Appendix A

Supplementary Tables and Figures

Appendix Table A.1. EASE Enrollment, Credit, and Degree Outcomes for Full Sample

| OUTCOME | ADJUSTED MEAN | | | INFO CAMPAIGN VS. CONTROL | | | INFO CAMPAIGN + TUITION VS. CONTROL | | | |
|-----------------------------|----------------------|------------|---------------|---------------------------|------|---------|-------------------------------------|------|---------|--|
| | INFO + TUITION GROUP | INFO GROUP | CONTROL GROUP | DIFFERENCE | SE | P-VALUE | DIFFERENCE | SE | P-VALUE | |
| First summer | | | | | | | | | | |
| Enrolled in any course (%) | 38.4 | 31.5 | 26.2 | 5.3 | 1.1 | 0.000 | 12.2 | 1.1 | 0.000 | |
| Passed a course or more (%) | 31.9 | 25.8 | 21.9 | 3.9 | 1.0 | 0.000 | 10.0 | 1.0 | 0.000 | |
| Credits attempted | | | | | | | | | | |
| College-level | 2.15 | 1.78 | 1.49 | 0.29 | 0.08 | 0.000 | 0.66 | 0.08 | 0.000 | |
| Developmental | 0.31 | 0.27 | 0.22 | 0.05 | 0.03 | 0.031 | 0.09 | 0.03 | 0.001 | |
| Total | 2.45 | 2.05 | 1.70 | 0.35 | 0.08 | 0.000 | 0.75 | 0.08 | 0.000 | |
| Credits earned | | | | | | | | | | |
| College-level | 1.63 | 1.36 | 1.17 | 0.19 | 0.07 | 0.003 | 0.47 | 0.07 | 0.000 | |
| Developmental | 0.19 | 0.17 | 0.14 | 0.03 | 0.02 | 0.132 | 0.05 | 0.02 | 0.010 | |
| Total | 1.83 | 1.53 | 1.31 | 0.22 | 0.07 | 0.001 | 0.52 | 0.07 | 0.000 | |
| Degree earned (%) | | | | | | | | | | |
| Certificate | 1.1 | 0.8 | 0.7 | 0.1 | 0.2 | 0.713 | 0.5 | 0.2 | 0.039 | |
| Associate's | 0.2 | 0.2 | 0.2 | 0.0 | 0.1 | 0.828 | 0.0 | 0.1 | 0.970 | |
| First fall | | | | | | | | | | |
| Enrolled in any course (%) | 55.4 | 54.8 | 54.7 | 0.0 | 1.2 | 0.996 | 0.7 | 1.2 | 0.568 | |
| Credits attempted | | | | | | | | | | |
| College-level | 5.14 | 5.06 | 5.10 | -0.04 | 0.12 | 0.762 | 0.05 | 0.12 | 0.706 | |
| Developmental | 0.51 | 0.53 | 0.48 | 0.04 | 0.03 | 0.225 | 0.02 | 0.03 | 0.499 | |
| Total | 5.65 | 5.59 | 5.58 | 0.00 | 0.13 | 0.977 | 0.07 | 0.13 | 0.591 | |
| Credits earned | | | | | | | | | | |
| College-level | 3.87 | 3.88 | 3.92 | -0.04 | 0.11 | 0.750 | -0.05 | 0.11 | 0.637 | |
| Developmental | 0.30 | 0.29 | 0.27 | 0.02 | 0.03 | 0.450 | 0.03 | 0.03 | 0.210 | |
| Total | 4.17 | 4.17 | 4.19 | -0.02 | 0.12 | 0.884 | -0.02 | 0.12 | 0.852 | |
| Cumulative credits earned | | | | | | | | | | |
| College-level | 5.49 | 5.23 | 5.07 | 0.16 | 0.15 | 0.293 | 0.42 | 0.15 | 0.006 | |
| Developmental | 0.49 | 0.45 | 0.41 | 0.05 | 0.03 | 0.162 | 0.08 | 0.03 | 0.018 | |
| Total | 5.97 | 5.68 | 5.48 | 0.21 | 0.16 | 0.187 | 0.50 | 0.16 | 0.001 | |

(continued)

Appendix Table A.1 (continued)

| OUTCOME | ADJUSTED MEAN | | | INFO CAMPAIGN VS. CONTROL | | | INFO CAMPAIGN + TUITION VS. CONTROL | | |
|------------------------------|----------------------|------------|---------------|---------------------------|------|---------|-------------------------------------|------|---------|
| | INFO + TUITION GROUP | INFO GROUP | CONTROL GROUP | DIFFERENCE | SE | P-VALUE | DIFFERENCE | SE | P-VALUE |
| Cumulative degree earned (%) | | | | | | | | | |
| Certificate | 3.0 | 2.7 | 2.6 | 0.1 | 0.4 | 0.803 | 0.4 | 0.4 | 0.255 |
| Associate's | 0.7 | 0.7 | 0.7 | 0.0 | 0.2 | 0.907 | 0.0 | 0.2 | 0.870 |
| First spring | | | | | | | | | |
| Enrolled in any course (%) | 45.7 | 46.1 | 45.0 | 1.1 | 1.2 | 0.367 | 0.7 | 1.2 | 0.555 |
| Credits attempted | | | | | | | | | |
| College-level | 4.16 | 4.24 | 4.24 | 0.00 | 0.12 | 0.977 | -0.08 | 0.12 | 0.514 |
| Developmental | 0.28 | 0.28 | 0.25 | 0.03 | 0.02 | 0.200 | 0.03 | 0.02 | 0.211 |
| Total | 4.44 | 4.52 | 4.49 | 0.04 | 0.13 | 0.782 | -0.05 | 0.13 | 0.697 |
| Credits earned | | | | | | | | | |
| College-level | 3.32 | 3.37 | 3.41 | -0.04 | 0.11 | 0.697 | -0.10 | 0.11 | 0.393 |
| Developmental | 0.15 | 0.15 | 0.14 | 0.00 | 0.02 | 0.841 | 0.01 | 0.02 | 0.639 |
| Total | 3.47 | 3.52 | 3.56 | -0.04 | 0.11 | 0.726 | -0.09 | 0.11 | 0.444 |
| Cumulative credits earned | | | | | | | | | |
| College-level | 8.75 | 8.53 | 8.44 | 0.09 | 0.24 | 0.710 | 0.31 | 0.24 | 0.194 |
| Developmental | 0.63 | 0.59 | 0.54 | 0.05 | 0.04 | 0.192 | 0.09 | 0.04 | 0.032 |
| Total | 9.38 | 9.12 | 8.98 | 0.14 | 0.25 | 0.564 | 0.40 | 0.25 | 0.106 |
| Cumulative degree earned (%) | | | | | | | | | |
| Certificate | 5.0 | 5.0 | 4.4 | 0.5 | 0.5 | 0.296 | 0.6 | 0.5 | 0.223 |
| Associate's | 3.5 | 3.6 | 3.6 | 0.0 | 0.4 | 0.971 | -0.1 | 0.4 | 0.822 |
| Second summer | | | | | | | | | |
| Enrolled in any course (%) | 19.8 | 18.2 | 16.8 | 1.4 | 0.9 | 0.119 | 3.0 | 0.9 | 0.001 |
| Credits attempted | | | | | | | | | |
| College-level | 1.18 | 1.10 | 1.02 | 0.08 | 0.06 | 0.214 | 0.15 | 0.06 | 0.018 |
| Developmental | 0.07 | 0.06 | 0.06 | 0.00 | 0.01 | 0.774 | 0.01 | 0.01 | 0.426 |
| Total | 1.24 | 1.17 | 1.08 | 0.08 | 0.07 | 0.209 | 0.16 | 0.07 | 0.015 |

(continued)

Appendix Table A.1 (continued)

| OUTCOME | ADJUSTED MEAN | | | INFO CAMPAIGN VS. CONTROL | | | INFO CAMPAIGN + TUITION VS. CONTROL | | | |
|------------------------------|----------------------|------------|---------------|---------------------------|------|---------|-------------------------------------|------|---------|--|
| | INFO + TUITION GROUP | INFO GROUP | CONTROL GROUP | DIFFERENCE | SE | P-VALUE | DIFFERENCE | SE | P-VALUE | |
| Credits earned | | | | | | | | | | |
| College-level | 0.93 | 0.90 | 0.83 | 0.07 | 0.06 | 0.225 | 0.10 | 0.06 | 0.081 | |
| Developmental | 0.04 | 0.04 | 0.03 | 0.01 | 0.01 | 0.246 | 0.01 | 0.01 | 0.258 | |
| Total | 0.97 | 0.94 | 0.86 | 0.08 | 0.06 | 0.173 | 0.11 | 0.06 | 0.060 | |
| Cumulative credits earned | | | | | | | | | | |
| College-level | 9.65 | 9.39 | 9.24 | 0.15 | 0.27 | 0.578 | 0.41 | 0.27 | 0.131 | |
| Developmental | 0.67 | 0.63 | 0.57 | 0.06 | 0.04 | 0.124 | 0.10 | 0.04 | 0.018 | |
| Total | 10.31 | 10.02 | 9.81 | 0.21 | 0.28 | 0.438 | 0.51 | 0.28 | 0.067 | |
| Cumulative degree earned (%) | | | | | | | | | | |
| Certificate | 5.6 | 5.5 | 5.0 | 0.6 | 0.5 | 0.294 | 0.6 | 0.5 | 0.270 | |
| Associate's | 4.3 | 4.5 | 4.6 | -0.1 | 0.5 | 0.891 | -0.3 | 0.5 | 0.580 | |
| Summer terms only | | | | | | | | | | |
| Cumulative credits attempted | | | | | | | | | | |
| College-level | 3.32 | 2.88 | 2.51 | 0.37 | 0.11 | 0.001 | 0.81 | 0.11 | 0.000 | |
| Developmental | 0.38 | 0.34 | 0.28 | 0.06 | 0.03 | 0.040 | 0.10 | 0.03 | 0.001 | |
| Total | 3.70 | 3.22 | 2.79 | 0.43 | 0.12 | 0.000 | 0.91 | 0.12 | 0.000 | |
| Cumulative credits earned | | | | | | | | | | |
| College-level | 2.56 | 2.26 | 1.99 | 0.26 | 0.10 | 0.007 | 0.57 | 0.10 | 0.000 | |
| Developmental | 0.23 | 0.21 | 0.17 | 0.04 | 0.02 | 0.068 | 0.06 | 0.02 | 0.005 | |
| Total | 2.79 | 2.47 | 2.16 | 0.30 | 0.10 | 0.003 | 0.63 | 0.10 | 0.000 | |
| Sample size (total = 10,668) | 3,550 | 3,565 | 3,553 | | | | | | | |

SOURCE: MDRC calculations from transcript data provided by program sites.

NOTES: Rounding may cause slight discrepancies in sums and differences.

Estimates are adjusted by random assignment block, gender, dependency status, race, age, and Expected Family Contribution (EFC).

The statistics above exclude the 145 Cohort 2 students at Marion Technical College who were removed from the study due to an error in messaging.

No bachelor's degrees were conferred during the follow-up period.

Appendix Table A.2. EASE Spring and Summer Pass Rates for First Summer Enrollees (Non-Experimental)

| OUTCOME | ADJUSTED MEAN | | |
|-----------------------------------|----------------------|------------|---------------|
| | INFO + TUITION GROUP | INFO GROUP | CONTROL GROUP |
| Spring before first summer | | | |
| Total credits attempted | 10.75 | 10.77 | 10.69 |
| Total credits earned | 8.84 | 8.94 | 9.17 |
| Pass rate (%) | 0.82 | 0.83 | 0.86 |
| First summer | | | |
| Total credits attempted | 6.42 | 6.48 | 6.49 |
| Total credits earned | 4.76 | 4.84 | 4.98 |
| Pass rate (%) | 0.75 | 0.74 | 0.76 |
| Sample size (total = 3,420) | 1,365 | 1,121 | 934 |

SOURCE: MDRC calculations from transcript data provided by program sites.

NOTES: Rounding may cause slight discrepancies in sums and differences.

Sample sizes may vary because of missing values.

The statistics above exclude the 145 Cohort 2 students at Marion Technical College who were removed from the study due to an error in messaging.

Appendix Table A.3. EASE Percent of Students Enrolled in the First Summer by Subgroup

| SUBGROUP | SAMPLE SIZE | ADJUSTED MEAN | | | INFO CAMPAIGN VS. CONTROL | | | | INFO CAMPAIGN + TUITION VS. CONTROL | | | |
|---|-------------|----------------------|------------|---------------|---------------------------|-----|---------|-------------------------|-------------------------------------|-----|---------|-------------------------|
| | | INFO + TUITION GROUP | INFO GROUP | CONTROL GROUP | DIFFERENCE | SE | P-VALUE | P-VALUE DIFF IN EFFECTS | DIFFERENCE | SE | P-VALUE | P-VALUE DIFF IN EFFECTS |
| Cohort | | | | | | | | 0.861 | | | | 0.110 |
| 1: Spring 2017 | 3,689 | 37.8 | 28.8 | 23.2 | 5.6 | 1.8 | 0.002 | | 14.6 | 1.8 | 0.000 | |
| 2: Spring 2018 | 6,979 | 38.8 | 33.0 | 27.8 | 5.2 | 1.4 | 0.000 | | 10.9 | 1.4 | 0.000 | |
| Expected family contribution | | | | | | | | 0.885 | | | | 0.002 |
| EFC = 0 | 7,047 | 36.9 | 32.3 | 27.2 | 5.2 | 1.3 | 0.000 | | 9.7 | 1.3 | 0.000 | |
| EFC > 0 | 3,620 | 41.3 | 30.0 | 24.5 | 5.5 | 1.9 | 0.003 | | 16.8 | 1.8 | 0.000 | |
| Race/ethnicity | | | | | | | | 0.025 | | | | 0.009 |
| White | 5,862 | 40.3 | 31.8 | 27.5 | 4.3 | 1.5 | 0.004 | | 12.7 | 1.5 | 0.000 | |
| Black | 2,763 | 34.4 | 31.4 | 26.2 | 5.2 | 2.1 | 0.015 | | 8.2 | 2.1 | 0.000 | |
| Hispanic | 484 | 38.5 | 35.5 | 25.2 | 10.3 | 5.3 | 0.053 | | 13.3 | 5.3 | 0.013 | |
| Multiracial | 482 | 31.3 | 21.8 | 19.5 | 2.2 | 4.8 | 0.644 | | 11.8 | 4.8 | 0.014 | |
| Other (Asian, Native American, and Other) | 416 | 47.9 | 40.8 | 18.2 | 22.6 | 5.7 | 0.000 | | 29.7 | 5.6 | 0.000 | |
| Summer Pell Grant status | | | | | | | | 0.526 | | | | 0.144 |
| Pell remaining | 9,842 | 37.9 | 31.6 | 26.1 | 5.5 | 1.1 | 0.000 | | 11.8 | 1.1 | 0.000 | |
| No Pell remaining | 826 | 45.5 | 30.3 | 27.5 | 2.9 | 4.0 | 0.470 | | 18.0 | 4.1 | 0.000 | |
| Financial calendar | | | | | | | | 0.242 | | | | 0.033 |
| Header | 3,130 | 31.0 | 25.7 | 22.2 | 3.5 | 1.9 | 0.067 | | 8.8 | 1.9 | 0.000 | |
| Trailer | 7,538 | 41.5 | 34.0 | 27.8 | 6.2 | 1.3 | 0.000 | | 13.7 | 1.3 | 0.000 | |
| School size | | | | | | | | 0.293 | | | | 0.701 |
| Small (N < 1,000) | 2,197 | 39.3 | 35.5 | 27.9 | 7.6 | 2.4 | 0.002 | | 11.4 | 2.4 | 0.000 | |
| Large (N > 1,000) | 8,471 | 38.2 | 30.5 | 25.7 | 4.8 | 1.2 | 0.000 | | 12.5 | 1.2 | 0.000 | |
| Sample size (total = 10,668) | | 3,550 | 3,565 | 3,553 | | | | | | | | |

SOURCE: MDRC calculations from transcript data provided by program sites.

NOTES: Rounding may cause slight discrepancies in sums and differences.

Sample sizes may vary because of missing values.

The statistics above exclude the 145 Cohort 2 students at Marion Technical College who were removed from the study due to an error in messaging.

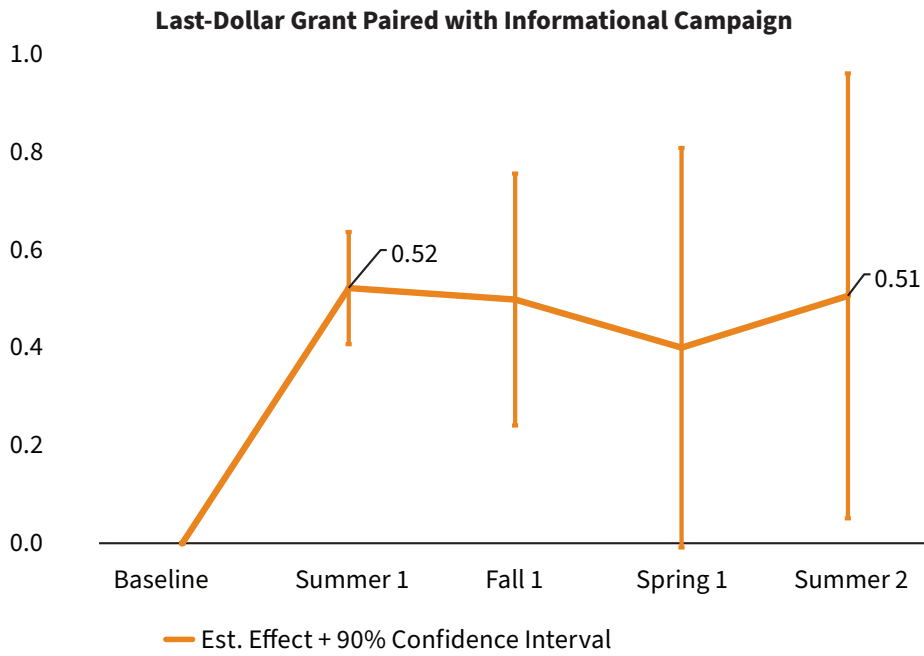
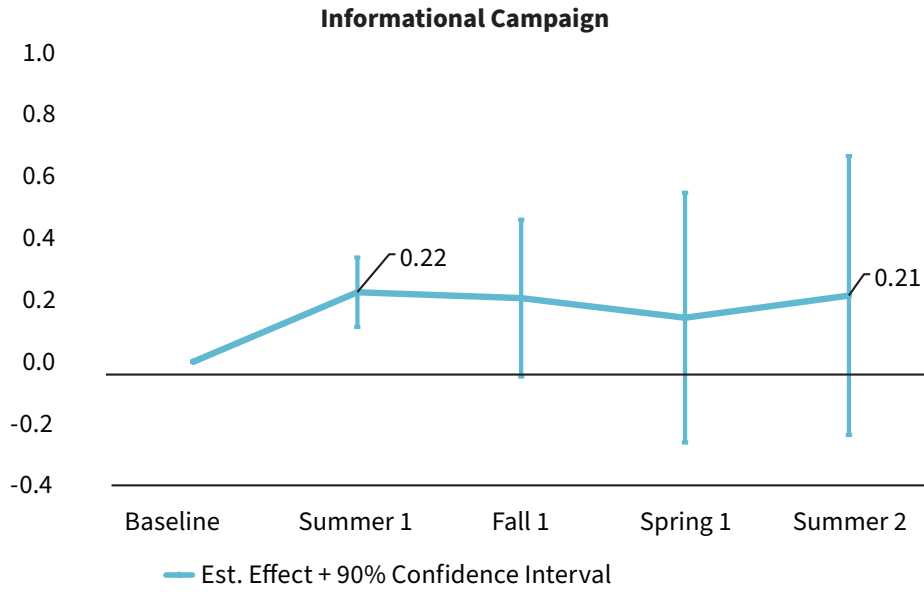
Appendix Table A.4. Outcomes and Simplified ROI in the First Summer for Full Sample

| | ADJUSTED MEAN | | | INFO CAMPAIGN VS. CONTROL | | | INFO CAMPAIGN + TUITION VS. CONTROL | | |
|--------------------------------|-------------------------|---------------|------------------|------------------------------|------|---------|--|------|---------|
| | INFO + TUITION GROUP | INFO GROUP | CONTROL GROUP | DIFFERENCE | SE | P-VALUE | DIFFERENCE | SE | P-VALUE |
| Intervention outcomes | | | | | | | | | |
| Enrollment (%) | 38.4 | 31.5 | 26.2 | 5.3 | 1.1 | 0.000 | 12.2 | 1.1 | 0.000 |
| Credits attempted | 2.45 | 2.05 | 1.70 | 0.35 | 0.08 | 0.000 | 0.75 | 0.08 | 0.000 |
| Credits earned | 1.83 | 1.53 | 1.31 | 0.22 | 0.07 | 0.001 | 0.52 | 0.07 | 0.000 |
| Pell disbursed (\$) | 388 | 354 | 289 | 65 | 15 | 0.000 | 99 | 15 | 0.000 |
| Revenue (\$) | | | | | | | | | |
| Tuition revenue per student | 344 | 287 | 239 | 48 | 11 | 0.000 | 105 | 11 | 0.000 |
| State revenue per student | 174 | 146 | 125 | 21 | 7 | 0.002 | 49 | 7 | 0.000 |
| Total revenue | 518 | 433 | 363 | 69 | 17 | 0.000 | 155 | 18 | 0.000 |
| Cost (\$) | | | | | | | | | |
| Summer Scholar Grant | 63 | 0 | 0 | 0 | 3 | 0.990 | 62 | 3 | 0.000 |
| Cost of material goods | 16 | 15 | 0 | 15 | 0 | 0.000 | 16 | 0 | 0.000 |
| Total cost | 79 | 15 | 0 | 15 | 3 | 0.000 | 79 | 3 | 0.000 |
| Revenue minus cost (\$) | | | | | | | | | |
| Lower bound (excluding state) | 265 | 272 | 239 | 34 | 11 | 0.002 | 27 | 11 | 0.017 |
| Higher bound (including state) | 439 | 418 | 363 | 55 | 17 | 0.001 | 76 | 17 | 0.000 |

SOURCE: Revenue information was collected in 2018 using college websites and correspondence. These numbers were used for both cohorts, assuming costs did not change greatly from year to year. The numbers are not comprehensive. The following revenue sources are excluded: class-based fees (such as labs and online courses); nonrequired fees (such as late fees); out-of-county surcharges for Lakeland, Rio Grande, and Sinclair. Semesterly fees are excluded from revenue calculations; sensitivity tests showed these improved the revenue to schools by \$1-\$2 per student.

NOTE: Rounding may cause slight discrepancies in sums and differences.

Appendix Figure A.1. Sustained Effects on Credits Earned



SOURCE: MDRC calculations from transcript data provided by program sites.

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