

A scan of credit recovery practices in Minnesota public schools

Executive summary

Overview

Staff from the Regional Education Laboratory (REL) Midwest partnered with staff from the Minnesota Department of Education (MDE) to conduct a statewide scan of credit recovery practices in secondary programs. As part of this scan, the research team conducted a statewide survey of all public school programs and a targeted in-depth qualitative investigation of how credit recovery is being carried out and supported in Minnesota public schools. This report summarizes findings from this scan of credit recovery practices.

Primary findings

- Given an additional year or two beyond the traditional 4-year trajectory, many students enrolled in State-Approved Alternative Programs (SAAPs) and charters eventually complete graduation requirements.
- The availability of high-quality credit recovery impacts students of color disproportionately. Of the schools responding to the survey, more students of color are enrolled in SAAPs and most students in SAAPs are engaged in credit recovery.
- There is great variation in how programs implement credit recovery: delivery of instruction, access to content specialists, and means to award credit. This variation highlights concerns over equitable access to high-quality credit recovery opportunities for all public school students in Minnesota.
- Programs identified many elements of credit recovery programming considered best practices such as positive relationships with trusted adults; early intervention; flexibility of when, where, and how credit recovery is offered; recognition of prior learning; and competency-based awarding of credit. However, few programs are currently implementing these practices with fidelity.

Recommendations

- MDE should collaborate with practitioners and stakeholders to identify indicators of successful credit recovery programs.
- MDE should evaluate current resources that provide technical assistance related to credit recovery and create additional resources to support best practices.
- MDE should recommend the creation of a legislative task force to review statute and make recommendations to provide equitable access to high-quality credit recovery options.
- MDE should ensure that SAAPs are aligned to the statutory qualifications for each and be recategorized to match current programming.
- MDE, the Professional Educator Licensing Standards Board, and the Board of Teaching should collaborate with alternative programs to examine the policies and procedures designed to ensure licensed content-area specialists are available to students.

Introduction and purpose

The Minnesota Legislature implemented State-Approved Alternative Programs (SAAPs) in 1987 to support students struggling to graduate from traditional high schools. The recovery of failed credit is one of the strongest determinants of whether students who are struggling academically will graduate on time from high school. As the number of SAAPs expanded across the state, the support provided for implementation and focus on SAAPs at the MDE diminished. In the past, MDE had employed two specialists and a support position to provide technical support for SAAPs. Today, there are more than 600 SAAPs, with only one specialist assigned to provide technical support for all of them. The adoption of the Every Student Succeeds Act (ESSA) highlighted trends of low 4-year graduation rates for SAAPs. Naturally, as a large number of SAAPs were identified for support under ESSA, questions surfaced concerning why programs experienced such low graduation rates. As ESSA-identified SAAP programs completed needs assessments, questions remained at the state level concerning the kind of programming being offered, who was staffing the programs, and whether students were equitably able to access quality credit recovery options. These questions could not be answered based on SAAPs' reporting to MDE alone. MDE could, however, determine from their responses that traditional, alternative, and charter online schools vary widely in structure and implementation of credit recovery programming. Their organizational structures also vary, making it challenging to capture the broad spectrum of how credit recovery practices are shaped and implemented in these different organizational environments.

Sparked by these questions, MDE partnered with REL Midwest to examine trends concerning equitable access, program offerings, and instructional strategies. The aim of this project is to identify and share promising practices with secondary programs across the state to increase access to high-quality credit recovery programming, identify instructional best practices, increase course completions, and ensure that students at risk of failure are being supported and successful in recovering failed credits.

In October 2018, MDE and REL Midwest identified research questions and developed a research framework to address the aims listed. During this scan of credit recovery programs, MDE and REL Midwest have developed and executed a statewide survey of credit recovery practices and conducted interviews with administrators from programs of interest to provide greater insight into the types of offerings, supports, and needs that exist in districts around Minnesota. This report presents a summary of our findings. We begin this report by providing a brief overview of what the research tells us about credit recovery and promising practices. We then present results from the statewide survey administered during January 2019 and results from our qualitative inquiry of schools of interest. We conclude by highlighting our findings and recommending next steps for the consideration of MDE leadership.

The state of credit recovery

Credit recovery is a strategy that allows students to retake courses that are required for graduation after an unsuccessful attempt. A 2014/15 national survey found that 89 percent of responding high schools offered at least one course for credit recovery, and 15 percent of students nationwide engaged in some form of credit recovery (U.S. Department of Education, 2018). The failure to complete high school is associated with reduced employment opportunities, relegation to low-skill and low-paying positions, engagement in criminal activities, and diminished intergenerational upward mobility (Hayes, Nelson, Tabin, Pearson, & Worthy, 2002). Access to

high-quality opportunities to recover missed credits can support students otherwise on track to graduate (Viano & Henry, 2018). Furthermore, for students who are at risk of dropping out, high-quality credit recovery opportunities have the potential to ensure success in career and postsecondary education (Christle, Jolivet, & Nelson, 2007). The benefits and need for high-quality credit recovery options in high school are clear. However, there is a high degree of variability surrounding credit recovery requirements, instructional methods, supports, and when and where opportunities are offered (U.S. Department of Education, 2018). This variability in the “when and how” of programming not only creates opportunity gaps among students but also presents significant challenges for state education agencies trying to support meaningful student success. Given the known variability of access, quality, and student success in credit recovery nationwide, there is a need to understand the characteristics of credit recovery in Minnesota public schools.

Critical questions have been raised about whether the short-term gains of raising graduation rates through less rigorous forms of credit recovery, such as credit awarded by seat time, are providing meaningful contributions to student learning. Variable standards around credit recovery can result in practices that, at best, help students get back on track and, at worst, can provide a high school diploma that does not genuinely reflect skills and competencies that may or may not have been gained or demonstrated. Research shows a correlation of increasing graduation rates to an increasing reliance on credit recovery strategies by schools (Malkus, 2018a). However, studies in North Carolina (Stallings et al., 2017) and Chicago (Heppen et al., 2016) found no correlation between credit recovery and success in future courses or assessments of college readiness such as the ACT, SAT, or NAEP (Malkus, 2018b). Based on these findings, it would appear that simply offering credit recovery is not a panacea for later student success beyond simply meeting graduation requirements.

Several modes of credit recovery are commonly offered, including online courses, course retake, packet work, and instructor-developed modified courses. Online platforms have become popular and prolific in recent years; 35 state-approved programs operate in Minnesota. Increased use of online credit recovery platforms can provide opportunities to underserved students to recover credit on a flexible time schedule (Stallings et al., 2017). However, current research raises questions about the quality and rigor of online credit recovery courses overall (Protopsaltis & Baum, 2019). Research indicates that students recovering credit through online programs without additional supports may struggle to complete credit recovery programming. Recent research shows that the content included in credit recovery courses and the amount of in-person mentoring and support affect a student’s likelihood of recovering credit (Heppen et al., 2016; Taylor et al., 2017; Walters, Heppen, Rickles, Clements, & Taylor, 2017). A 2016 study of Chicago Public Schools students demonstrated that more students recovered credit in face-to-face courses than in those offered online; online students exhibited less confidence and affinity for the subject matter than their peers taking courses in-person (Heppen et al., 2016).

Competency-based award of credit has been identified as a promising strategy for increasing academic achievement, graduation rates, and career and college readiness (Anderson & Fulton, 2015; Sturgis & Patrick, 2010). Competency-based instructional strategies allow flexibility in the timeline by which students progress through program coursework, as well as flexibility in how students can demonstrate competency (Brodersen, Yanoski, Mason, Apthorp, & Piscatelli, 2016). Unlike online programming, competency-based credit recovery requires a student to develop skills and complete identified competencies through project-based, hands-on, and guided instruction led by a licensed content-area specialist.

Summary of statewide survey findings

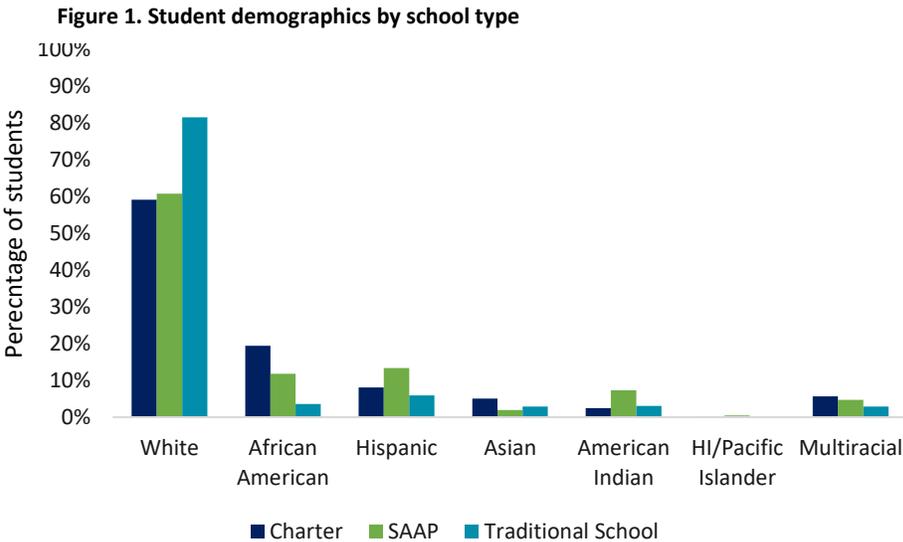
Survey methods

MDE electronically administered a survey of credit recovery practices to a convenience sample of 505 public schools identified by MDE as licensed programs in January 2019. Emails were sent to school administrators requesting that the staff member most knowledgeable about credit recovery topics complete the survey. It was made clear in the email that survey responses were to be used to develop a better understanding of credit recovery practices and would not be used in a punitive fashion. We received 250 responses, representing approximately 49 percent of schools initially contacted. The survey asked respondents to identify what type of school or district they were responding for, what types of delivery methods they use for credit recovery, what timing was available for students to complete credit recovery, how credit is awarded, and what preassessments were given to students. Furthermore, the survey asked respondents to describe any unique or promising credit recovery methods they employ. Responses to this survey served as the basis for the qualitative sampling framework and informed questions in the interview protocol. The interview protocol was developed, in part, to provide a deep dive into the survey responses. In the following sections, we provide two sets of analyses: an analysis of MDE administrative data to provide context for this report and an analysis of survey responses.

Survey results summary

Student characteristics and graduation rates

To provide context for this report, we used longitudinal administrative data from MDE to look descriptively at student race/ethnicity (figure 1) and graduation rates over 4, 5, and 6 years for all survey respondents (figure 2), each by school type. According to previous state reports, we know that traditional schools, charter schools, and SAAPs serve students with different characteristics and have varied success in graduating students. The information in those analyses provide necessary context for the findings in this report.

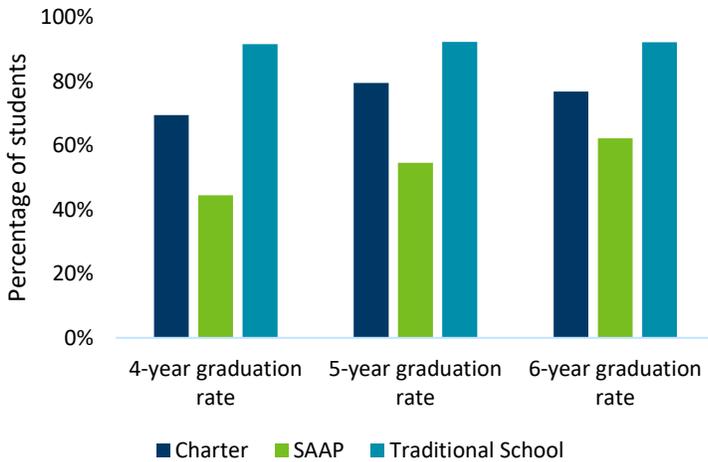


From our analysis of administrative data we find that charter schools and SAAPs serve a more diverse student body than traditional schools. The percentage of students by race/ethnicity enrolled in traditional schools, charter schools, and SAAPs is displayed in figure 1. Traditional schools serve the highest percentage of White students (82 percent), with charter schools and SAAPs serve roughly the same percentages of White students to each other (59 percent and

61 percent, respectively). Charter schools serve the highest percentage of African American students (19 percent), which is 7 percentage points higher than SAAPs and 15 percentage points higher than traditional schools. SAAPs serve the highest percentage of Hispanic (13 percent) and American Indian (7 percent) students.

In addition, SAAPs and charter schools fare worse in terms of graduation rates than do traditional schools. The percentage of students who graduated at 4, 5, and 6 years after entry into high school is shown in figure 2. Traditional schools had the highest average 4-year graduation rate (92 percent) compared with charters or SAAPs (69 percent and 44 percent, respectively).

Figure 2. Graduation rates by school type



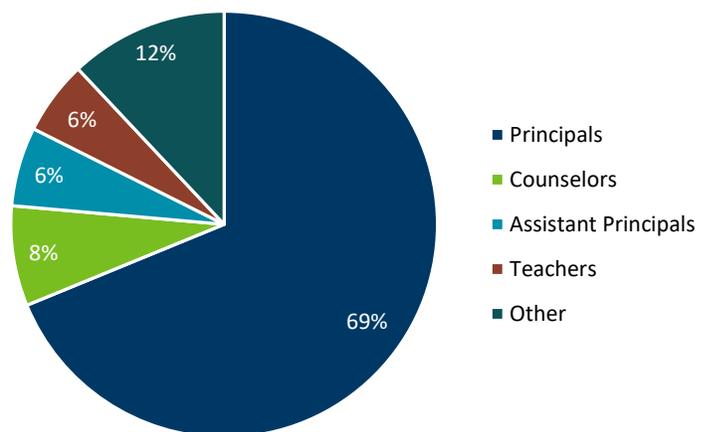
SAAPs (69 percent and 44 percent, respectively). We would expect that traditional schools would have higher graduation rates for the 4-year cohort of students, as many SAAPs are designed to serve students who are at risk of not graduating at the 4-year mark. Although traditional schools maintain the highest graduation rate across years to graduation, there is no difference between the 4-year and 6-year graduation rates (92 percent) for traditional schools. Graduation rates at charter schools peak at the 5-year graduation rate (80 percent) and diminish somewhat at 6

years (77 percent), remaining consistently in the 69 to 80 percent range overall. It is important to note that 55 percent of charter schools surveyed reported not offering credit recovery options to students. SAAPs consistently have the lowest graduation rates yet show the largest increase between 4-year (44 percentage points) and 6-year graduation rates (62 percent), an increase of 18 percentage points.

Survey respondent characteristics

We received responses from 108 SAAPs (43 percent of respondents), 31 charter schools (12 percent of respondents) and 111 traditional schools (44 percent of respondents). Most respondents to the statewide survey of credit recovery practices were principals (69 percent), whereas the remainder of respondents served in a variety of capacities, including counselors (8 percent), assistant principals (6 percent), and teachers (6 percent). The percentage of respondents by school role is shown in figure 3. Traditional schools comprised the largest portion of respondents (44 percent), followed by SAAPs (43 percent of respondents). Charter schools comprised 13 percent of total respondents.

Figure 3. Survey respondents by role



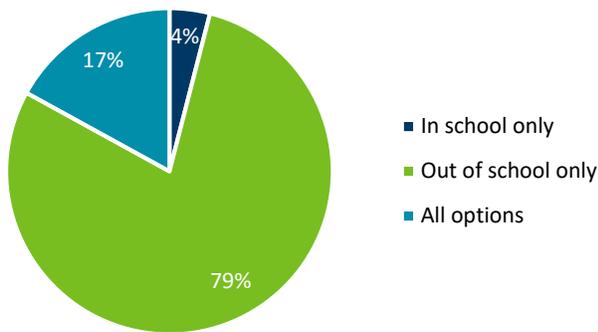
Credit recovery program characteristics

Although 91 percent of the 250 respondents reported offering credit recovery options, only 55 percent of charters reported offering credit recovery, compared with 99 percent of SAAPs and 86 percent of traditional schools.

Credit recovery timing

Programs varied in the timing of credit recovery options. Respondents chose whether they offered credit recovery during the school day, before or after school, during summer or intersession breaks, or independently. Responses from 228 programs are depicted in figure 4. The most common time to offer credit recovery was outside of the school day (figure 4); 79 percent of respondents offer credit recovery before or after school, or during the summer or intersession breaks. Seventeen percent of respondents reported offering credit recovery

Figure 4. Combined timing of offerings

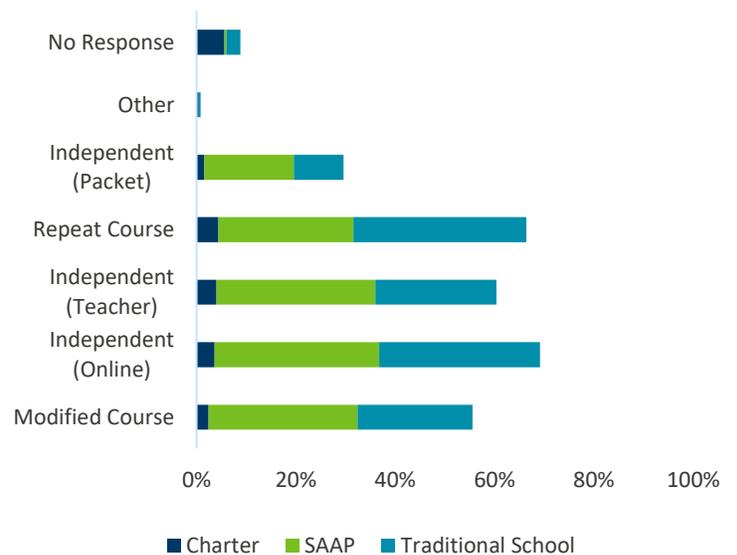


both in school and outside of the school day. Only 4 percent of respondents indicated they only offered credit recovery during school hours. Of respondents who reported offering credit recovery in school and out of school, 40 percent reported offering credit recovery without a scheduled time (independently).

Mode of credit recovery

Respondents reported using a variety of credit recovery methods, including online coursework (69 percent), repeating courses (66 percent), independent work arranged by a teacher (60 percent), modified credit recovery courses (56 percent), and independent work in a packet or textbook (30 percent). The methods of delivery reported for all schools are presented in figure 5. Overall, SAAPs and traditional schools offered multiple modes of credit recovery. In most cases, programs that offered more than one mode of credit recovery combined modes in which credit recovery was delivered. Charter schools were less likely to respond to this series of questions in the survey.

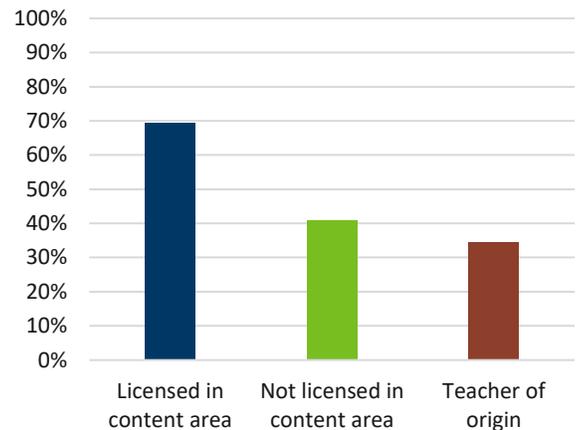
Figure 5. Mode of credit recovery by program type



Instructional staff for credit recovery

Respondents were asked to indicate the qualifications of instructional staff providing and facilitating credit recovery for students. In all, 228 programs of the 249 that completed the survey responded to this question. Most programs (69 percent) reported having a licensed content-area instructor assigned, almost half (49 percent) reported having non-content-area licensed staff assigned, and a smaller portion (35 percent) reported having the teacher of origin from the failed class (figure 6). These numbers are different when we examine the combination of who is available to staff credit recovery programs. Just over half of programs (55 percent) reported having credit recovery staffed only by licensed content-area teachers.

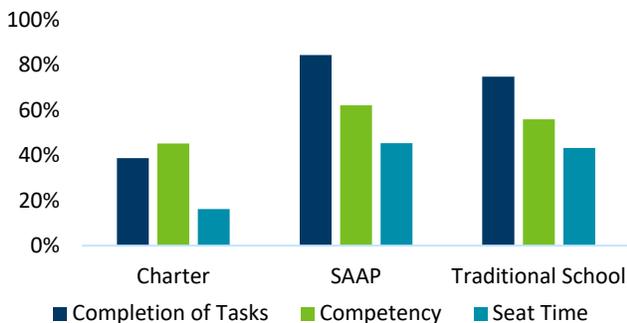
Figure 6. Instructors of credit recovery



How credit is awarded

The means in which credit is awarded (seat time, competency, or completion of tasks) varied by program type. Most programs selected more than one way in which credit is awarded. Completion of tasks was defined on the

Figure 7. Award of credit by program type



statewide survey as completion of modules or packets. The three charter schools that responded to our survey reported that they primarily use competency based assessments (45 percent) and completion of tasks (39 percent) to award credit (figure 7). SAAPs and traditional schools reported using completion of tasks (84 percent and 75 percent, respectively) and competency-based assessments (62 percent and 56 percent, respectively) as well as seat time credit (45 percent and 43 percent, respectively) to award credit. We were unable to determine with what frequency each method was used and whether

any variation in credit award by subject exists based on the survey data. Because programs were able to select multiple responses to this question, we can only assume that some combination of completion of tasks, competency, and seat time is used to determine satisfactory completion of credit retrieval.

Targeted qualitative inquiry

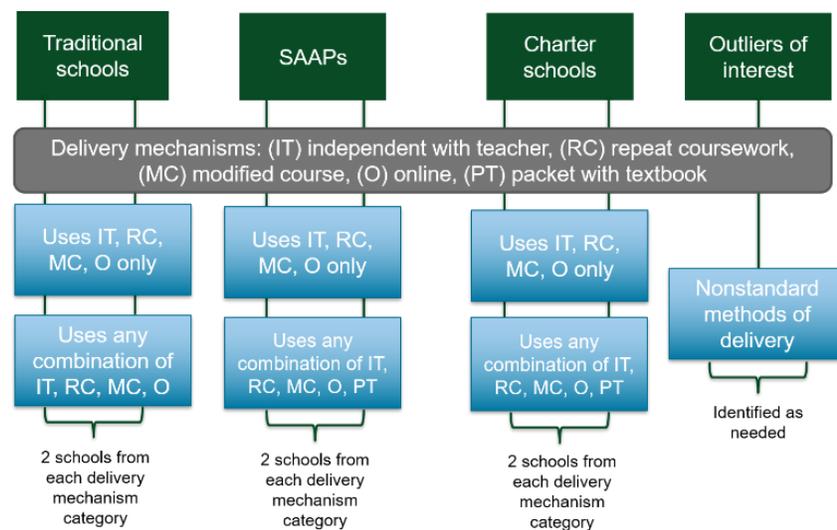
Methods summary

For this report, we conducted interviews with administrators at 17 Minnesota schools that offer credit recovery to high school students. We interviewed administrators from eight SAAPs, which include Area Learning Centers/Alternative Learning Programs (ALCs/ALPs) and a cooperative service district, four charter schools, one district program, one state-approved online charter school, one state-approved online school that operates in a district, and three traditional high schools. Programs were selected for inclusion in the interview process based in part on the statewide survey of credit recovery practices described previously. To develop the interview

sample framework, survey respondents were divided into groups based on (1) school designation (traditional, charter, SAAP, online) and (2) methods of offering credit recovery (independent study, online, course retake, teacher determined, and packets). This sampling framework is illustrated in figure 8. Using this framework, we anticipated that sampling categories would reflect the diversity of programming and options available to students for credit recovery. Our goal for this report was to interview staff from at least 16 programs and at least two schools from each method of delivery. We did not intentionally sample on location or size of program; however, this report includes schools in rural, urban, and suburban locations serving a diverse population of students. The analysis of qualitative data is reflective of differences in programing based on the type of delivery method and urbanicity of programs where appropriate.

MDE and REL Midwest staff conducted interviews with program and district administrators either in person or virtually. All respondents agreed to be recorded and were assured of anonymity. Interviews lasted approximately 45 minutes and were transcribed using a service contracted by a REL Midwest vendor. NVivo software was used to conduct coding and analysis. MDE and REL Midwest staff collaboratively designed the interview protocol and coding framework. The interview protocol included questions about program features such as delivery mechanisms and student entry into credit recovery, as well as questions to capture programmatic decisionmaking, best practices, and implementation challenges and successes. To ensure anonymity of our respondents, pseudonyms are used throughout this report. The analysis in this report provides an overview of the practices and challenges characterizing programs offering credit recovery.

Figure 8. Interview sampling framework



Summary of qualitative findings

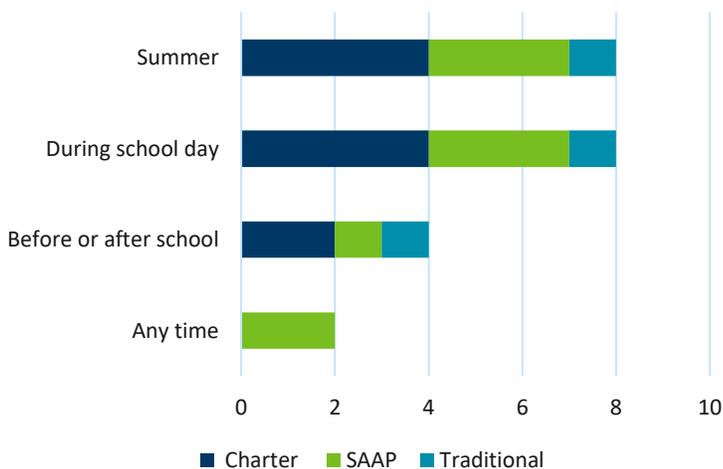
Program implementation and structures

Access to credit recovery

The options available to students vary widely depending on their school of enrollment and access to SAAPs in their area. Access refers to the timing of when students can participate in credit recovery. Understanding variation in when credit recovery is offered has implications for a student’s access to credit recovery programming and a student’s access to qualified content-area licensed instructors. For instance, students who do not have ready access to transportation may face challenges participating in credit recovery only offered outside of school times. The times in which credit recovery was offered to students varied by the type of school somewhat. We report on both timing of offerings by type of school classification as well as timing of offerings by modality.

The timing of offerings each program that reported offering credit recovery is displayed in figure 9. Programs reported credit recovery being offered at multiple times. There are similar patterns in timing in the survey data;

Figure 9. Timing of offerings by program type



summer school was the most prevalent time to offer credit recovery. Online schools (one charter and one district) generally offered credit recovery without constraints on the time in which students participated. Four of seven charters reported offering credit recovery to students during the school day or during summer school programs.

The online schools reported that students were able to log on at any time of the day or night. However, one online program also required that instructional staff be available to respond to email during specified hours of the day. Students were not required to be online

during this time, but the program administrator reported that the structured availability of the staff helped to foster an additional sense of structure for students and instructors.

“We have core hours, which are 10:00 to 2:00, Monday through Friday. So anybody who’s full-time [in our program] is expected to be online and be findable and be available for meetings or to talk about a student. Or at least to respond to their emails in a timely way. I think that kind of continuous contact with one another is what fosters the ability to have these conversations and think quickly and think creatively and come up with individual solutions.”

—Engel Online High School administrator

Other charter schools, SAAPs, and traditional schools offered credit recovery in summer, before and after school, and occasionally during the school day. Most often at traditional schools and charters, if credit recovery was offered during the school day, it replaced an elective course or was offered during a planning hour in which teachers held time to meet with students individually. One charter school, Pearce Academy, an urban charter school with a focus on health sciences, created block time in their schedules specifically for seniors to recover credit. Twice a week, only seniors who need credit recovery attend these blocked times. Two of the seven charter schools reported offering all three options: before or after school, during school, and summer school. ALCs and ALPs (SAAPs) were split evenly as to whether credit recovery was offered during the school day or before or after school. SAAPs often combined online offerings if students were unable to make the in-person scheduled courses work. Overall, schools that did not report offering credit recovery in summer school did report referring students to local ALCs, ALPs and online programs to complete credit over the summer.

Flexibility of schedule

The way credit recovery is scheduled can impact access for students and their likelihood to succeed. We found that timelines varied for the completion of credit recovery programs. Most programs, including SAAPs and service cooperatives, seemed to be designed intentionally to align with the calendars of traditional schools in their area (for example terms, semesters, quarters, etc.). The most flexible timelines for students was reported by an online charter school. Both online schools we interviewed reported having policies that allow students to “drop off” and return to online courses as many times as it takes for students to meet the standards for completion rather than “failing” the students out of the course. These programs explained their flexibility with students as aligned with a philosophy of giving the student “as many chances to succeed as possible.” Schedules in online schools varied from 8-week semesters to flexible-term dates for courses to be completed. However, having deadlines for completing work seems to be an important feature of some programs. The online school that structured their programming into semesters reported doing so to build a sense of accountability for students. One ALC administrator noted that it had previously tried an unstructured approach using digital curriculum and little access to content-area specialist teachers, but students were not completing courses at acceptable rates. Many SAAPs and traditional schools we spoke to reported that, although the flexibility of online programming was beneficial, the use of a digital curriculum for credit recovery, offered without other supports such as in-person time with teachers or other parameters for participation for students, was often reported as being challenging for students in persisting and completing credit recovery.

Having a single (end-of-year) graduation date for students was noted as a challenge for schools trying to support students in completing credit recovery courses. Respondents noted that strict scheduling policies can negatively impact student attendance. As reflected in the analysis of 4-, 5-, and 6-year graduation rates on page 4 of this report, students are completing credit recovery programs, but the pace of completion can be less than desirable and has the potential to impact their postsecondary plans.

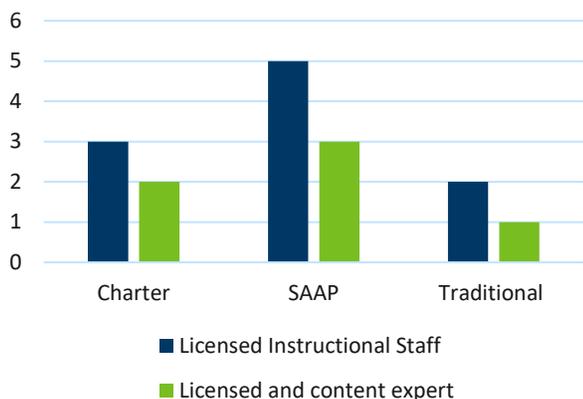
“Sometimes as many hours as we offer, it’s surprising to see that...it takes longer than you would think for students to finish these courses, but when you think about it, though, you got to remember these are the students that didn’t pass the first time in their classes, and some—sometimes they’re even repeating it a third time as far as trying to pass the class.”

—Pearce Academy administrator

Access to licensed content-area specialists

In Minnesota, credits are awarded by teachers holding licenses in various content areas. All programs we interviewed reported having licensed teachers administering and monitoring students in credit recovery programs. Most programs reported having licensed instructors, but not necessarily with content-area expertise.

Figure 10. Content-area licensed instructors, count by school type



The number programs that responded having licensed instructional staff and those that had licensed instructional staff certified in the content area of the credit recovery course is shown in figure 10. The patterns in instructional staff qualifications for our interview respondents are similar to the patterns in the statewide survey. Of those programs we interviewed, access to content-area licensed staff was inconsistent and varied by content area. Some traditional, charter, and ALC programs reported having content-area licensed teachers available for certain subjects, math and science. Furthermore, a few programs reported offering blocks of time where a content-area licensed teacher would be

available on a walk-in basis. M. Krause ALC reported efforts to align scheduling during the school year so students were being instructed by a content-area licensed teacher but had challenges in meeting this pairing for all students. They reported having much greater success in pairing students with licensed content-area specialists in their summer school program.

Some schools utilized multiple teachers and other staff to deliver instruction and support students. Engle Online High School reported offering programming with licensed instructors but did not guarantee access to content-area specialists. This program works with local districts to develop program content, and the contracted instructors deliver the content via an online platform. Licensed content-area specialists were available to students in the traditional school program during specific hours of the day for additional academic support, but programming was provided by available licensed instructional staff regardless of content-area expertise. Some of the primary challenges programs noted in being able to pair students with licensed content-area instructors were scheduling difficulties, limited staff, and limited financial resources.

“What steered us towards...the math credit recovery is because that was...one of the more common areas that we’re seeing a need for credit recovery where kids were needing extra supports...and then also having the capacity with their math department to do that where we couldn’t do it across the board.”

—H. Patton Charter administrator

Assessment of program success or barriers

Most of the programs we spoke with did not conduct formal regular reviews of the effectiveness of their programing and credit recovery methods in ensuring student completion of credit recovery. Many programs reported reviewing student data to assess how “on track” a student might be to completion or anecdotally identified areas of needed improvement, but few took an overall programmatic approach to assessing how the program was working. Three programs reported regularly looking at student achievement data with staff. Brampton ALC reported reviewing student data achievement and engagement data quarterly, in part to assess the performance of instructors staffing online course modules. A traditional program, Holland Area Schools, reported having both frequent formal and informal sessions to assess student data and discuss the challenges students overall might be experiencing. This administrator credited his instructional staff and the ability to structure Professional Learning Community time for staff to assess how students were progressing through credit recovery and to identify which instructional practices appeared to be more successful. The administrator also noted that much of the time devoted to consistent reflection and assessment was difficult to structure and required sacrificing other priorities.

“I said, ‘Let’s look at what’s not working,’ ...What would we like to address? And so, they’ve bitten into those several different pieces including credit recovery because they are—I’ve never worked them.... ‘You know what. It’s a real problem. Let’s fix it.’ ...What are the immovable objects that we need to talk to the middle school and elementary schools about? So, they’ve really been very good at taking up leadership roles and when you have ten teachers in a department or more, you can produce some really good ideas and some really good tools.”

—Holland Area Schools administrator

Preemptive strategies: Extending opportunities and early interventions

Many of the administrators discussed the importance of keeping students from needing to enter credit recovery; fewer reported enacting systematic efforts to identify students before they needed credit recovery. Nine of the 16 programs we interviewed discussed their attempts to preempt a student’s need for credit recovery. The efforts these programs reported ranged from systematically reviewing student achievement data and having systems to increase communication across middle and high school staff, to ad hoc efforts to delay assigning students a failing grade. The time and effort needed to consistently assess student data and a lack of coordination between schools and grade levels were noted as barriers to preempting the need for credit recovery. Administration from the Duval Academy, a charter school, reported regular meetings with the local “feeder” middle school to identify students at risk prior to entry in high school to ensure those students had extra support in their academic classes once they entered high school. The Tocci Education Consortium (TEC) service cooperative reported frequently meeting with area administrators, guidance counselors, social services case managers, and other community groups to identify students who might be at risk of failing courses.

“My math teacher is working with the 30 kids, sends the five or six who are really struggling to go work with that certified math teacher out in the breakout and that math teacher could do some catch-up, some addressing of missed concepts. So, we’re doing it on the go while it’s relevant and live inside the classroom.”

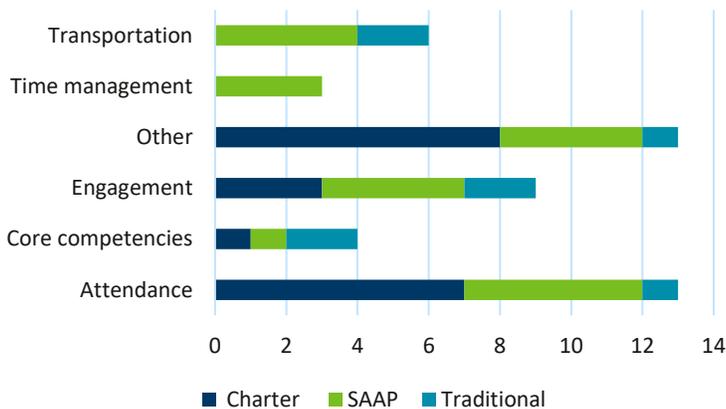
—Holland Area Schools administrator

Student pathways through credit recovery

Barriers to student success

The foremost-mentioned barriers to students' success in recovering credits were consistent attendance, lack of transportation, lack of engagement, poor time management skills, and lacking basic reading or math competencies. In figure 11, we display the frequency with which barriers were mentioned by respondents by school type.

Figure 11. Student barriers to success, frequency of mention



The "other" category represents responses that include students experiencing challenging life situations, mental health issues, anxiety and reluctance to retake courses due to feeling overwhelmed by the task. One respondent noted that failing a course that is part of a sequence of courses presents a significant barrier to student success in recovering the credit as well as for completion of other courses in the sequence. Often, respondents noted that additional responsibilities such as work, sports, and caring for family members or their own children contributed to students' difficulties

with consistent attendance and lack of access to transportation to quickly attend to their responsibilities as well as school. Student engagement was mentioned as an issue beyond attendance, but certainly it contributes to attendance problems and failure rates.

"There's still a segment of our kids who they're at home taking care of three brothers and sisters. They don't have a car. Their only way here is to and from is the school bus, those different things."

—Holland High School administrator

Enrollment in credit recovery

The ways in which students were identified and entered credit recovery varied by program. Entering credit recovery programming was optional in all programs. Most programs reported that the guidance counselors were instrumental in tracking and identifying students who may be in need of credit recovery. A traditional school reported that its leadership team and guidance counselors regularly review the progress of all students at their school and identify students who are failing, in danger of failing, or students who are in crisis to refer to credit recovery.

In some programs, parents were given notice through home mailings notifying them that their students were falling behind in their coursework. Programs reported students were often incorporated in the process of identification often through interactions with guidance counselors or other school employees with similar roles. All programs discussed the development of a program pathway, or the delivery method, timing, and assessment practices that might be best suited for an individual student. Only two programs, one traditional school and TEC

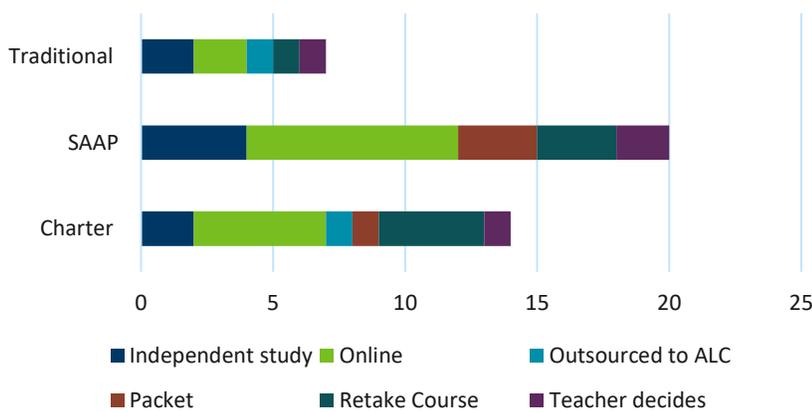
service cooperative, reported involving the instructor of the original failed course in the decisionmaking process of entry to credit recovery and development of the recovery pathway. Many program administrators whom we interviewed stressed the importance of building formal channels in which to track and target students across grade levels to identify students as early as possible.

Online programs reported they primarily receive referrals from originating school guidance counselors. The ALCs and ALPs more frequently reported having strategies in place to identify students for credit recovery. One ALC we interviewed also tracked attendance rates for students and collaborated with the district director of teaching and learning to coordinate credit recovery programming. Given that supporting high-risk students is a mandate for ALCs and ALPs, this kind of coordination is essential for them to continue fulfilling their state-mandated function.

Modes of credit recovery

The modes of delivery for credit recovery varied among programs as did support mechanisms for students, which mirrors the findings in the statewide survey. A count of which types of credit recovery modes programs implement is displayed in figure 12. Programs often reported implementing more than one mode of delivery.

Figure 12. Mode of delivery, count by school type



The most frequently implemented mode of credit recovery among respondents was using an online format to complete courses.¹ The next most commonly implemented modes were retaking an entire course and independent study. Most frequently, retaking a course and independent study were completed during the summer term. In instances where respondents indicated that the teacher decides how credit recovery is approached, students recover credit

by making up individual assignments or exams rather than completing the entire course over again. Independent study was not always paired with additional support; however, some programs did offer blocks of time where a licensed teacher was available to assist them, even though this is a requirement of programs. Students who were referred may take a single course or they may enroll completely in an alternative program. Although retaking an entire course is often used in charter schools, respondents noted that this option represented an emotional barrier for students who might be discouraged by the task.

¹ Online programming can be through a state-approved online school or through the use of digital credit recovery curriculum from a vendor.

As discussed previously, the licensed teachers in these programs were often not content-area specialists. Additional supports for students were often reported as providing mental health supports and bringing in a social worker to help support students experiencing challenges outside of school. Some program administrators discussed helping students “just get through it” so they could move on to the next phase in their lives. For these respondents, the ideal mode of credit recovery was the mode that presented the least amount of barriers to completion, such as using digital curriculum.

Online schools varied in their approach to delivery and support of students as they attempted to recover credit. Brampton ALC, an online program serving multiple districts and students at more than 70 high schools, is currently structured so that students must complete a full course in order to receive credit. At Engle Online High School, students are not required to complete the entire online course; rather, students can work with their teacher in the course they originally failed to identify competencies and select content related to those competencies to complete and recover credit.

The ALCs and ALPs (SAAPs) we interviewed offered the widest variety of methods to recover credit, including packet work, independent study, and online and direct instruction. Some SAAPs required students in credit recovery to complete the entire course again, whereas some allowed for partial completion of courses based on individual instructor assessment of missing competencies. All SAAPs reported combining credit recovery methods, for example, providing online courses with some packet work to supplement. Students were often expected to take credit recovery during the day or in summer. M. Krause High School reported that they require students taking online courses to work with an instructor in person during a blocked laboratory time or to enroll in in-person time during night school. Many of the SAAP programs interviewed reported that they found students struggled to succeed with self-paced digital curriculum and sought ways to move away from online platforms or ways to better combine it with other supports to increase the rate of student success.

Traditional schools reported multiple modes for credit recovery, except the use of packets, and varied in their approaches to delivery and support. Traditional schools were also more likely to refer a student to an ALC if they were unsuccessful in recovering credit. Students in Holland Area Schools are assessed for missing competencies to determine if they needed to retake an entire course or only recover specific missing competencies in a course. They then work with the teacher of record to complete competencies. Students who are not able to pass the course are then referred to the local ALC for day-time, after school, or summer credit recovery.

Student supports

The supports that were offered to students ranged from offering additional access to licensed teaching staff to connecting students with social workers and mental health professionals. SAAPs and charters were most likely to report structuring additional instructional time outside of programming. Few programs using a digital platform for credit recovery reported offering additional consistent instructional support for students who were recovering credit with digital curriculum. Most programs reported informal supports such as making an appointment with an instructor or having drop-in hours for study help. Traditional schools most frequently reported referral to ALCs or ALPs if students were unsuccessful in recovering credit in the traditional program.

The practices at Russo ALC, Engle Online High School, and TEC service cooperative were unique. Russo ALC reported putting additional efforts into tailoring supports for students, meeting with students frequently and informally to determine what additional support they need. Russo ALC administration also reported planning to establish a shared advisor with the local high school to help “bridge the gap” for students dually enrolled in the ALC and the high school. Engle Online High School reported providing in-person tutoring sessions with a licensed instructor several times a week, but not necessarily an instructor with the subject expertise the student needs. The administrator at TEC service cooperative reported that when students have failed to recover credit at least two times, the student meets with the coordinators and can take the test verbally; the prompts from the exam are read aloud by TEC staff.

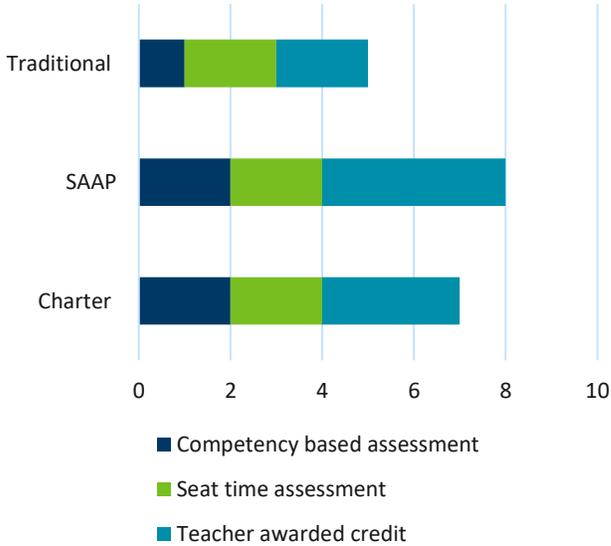
Monitoring and assessment practices

Staff who monitor and provide the final assessment of whether a student receives the recovered credit varied greatly between programs and, in some programs, depended on the type of credit recovery students were engaged in. This may be in part due to how programs are structured and what combination of delivery methods programs employ. In most cases, there was an established system for officially recording the award of credit that most often involved the originating school’s guidance counselor. Program administrators often mentioned the importance of a paper trail in the final award of credit.

Programs used a variety of data collection strategies to track student progress, such as software programs like Odysseyware, Edmentum, and EMPOWER, and data from online programs students enroll in. In some programs teams of guidance counselors and instructors regularly track student progress. In other programs the guidance counselor has the responsibility of tracking students. One program reported assigning a “success coach” to each student who has responsibility for monitoring progress. ALCs and online schools were the only types of programs that reported giving assessments prior to student entry into credit recovery to identify gaps in learning. Few programs that used an online platform for credit recovery reported assessing the quality of student work as they progressed through the program.

Most programs reported using a combination of attendance in class, or logging into online sessions, and completion of packets, tests, assignments or online modules to monitor students and award credit. The types of assessments reported being implemented by each program interviewed, disaggregated by school type, are shown in figure 13. Most programs reported a combination of assessment approaches, similar to the patterns apparent in the statewide survey data. Furthermore, most programs reported implementing some form of standards-based assessment. This was most common in programs where credit recovery was being delivered in

Figure 13. Methods of credit award, count by program type



a way that identified competencies needed to be recovered rather than retaking an entire course or completing full packets or online modules. Programs that did report standards-based or competency-based assessment frequently reported that these types of assessments were implemented in specific subjects, often those subjects in which many students were struggling to pass (such as math or science courses).

One example of competency-based assessment is the programming implemented at Reese ALC. The administrator reported that their ALC uses student continual learning plans to track student progress. The instructor of record assessed student work to meet competencies and determined whether the student has met the requirements for credit recovery based on meeting the requirements of the continual learning plan. This ALC also reported strengthening their communication with the counseling department at the originating high school to support monitoring student progress through the program.

The online schools we interviewed reported using different models to monitor and assess progress, such as combining seat time or module completion with some instructor evaluation and feedback on certain assignments. Instructors of record employed by the online district were responsible for monitoring progress and administration frequently monitors students logging into the program. For example, EngeleOnline High School relied on a combination of module completion and instructor standards assessment for all courses; however, it reported having technical issues with the system in terms of combining these assessment and monitoring practices. This program internally created rubrics for their instructors to assess student competency. Students in both programs received credit after modules were completed successfully. The online programs all reported putting a student on hold rather than dropping or failing students if they were not meeting attendance standards or were not successfully completing modules.

Traditional schools, in large part, reported having formalized systems to track student progress, such as teams of advisors and guidance counselors tasked with monitoring students. The administrator at Holland Area Schools reported significant efforts on the part of staff to regularly assess student progress in credit recovery. This administrator noted that regularly reviewing every student in teams was vitally important to ensure student success but had been taxing on the staff. The administrator expressed that having more staff to offer direct instruction rather than relying on independent study or eduCLIMBER would help the school better support students in the process of credit recovery.

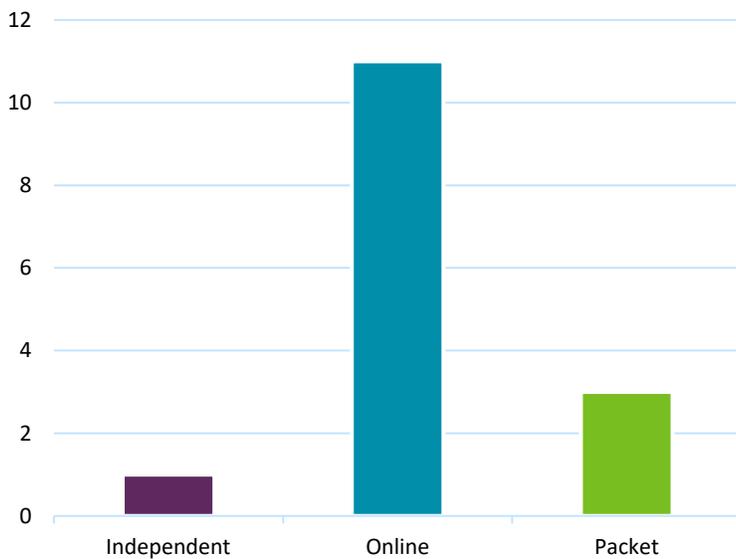
Finally, variability in thresholds for passing coursework was apparent in the interviews conducted. Some programs reported intentionally lowering the threshold for assigning a passing grade to preempt students from needing credit recovery. For example, allowing a letter grade of D to be a passing grade, whereas the alternative would be to automatically fail all students receiving a D grade. The concept of F+, although not in those exact words, was frequently mentioned as a strategy for programs to increase students' rates of passing courses. This practice is problematic as it presents a barrier in equitable opportunity for students to complete coursework and obtain a meaningful high school diploma.

Successes and challenges

Effective and ineffective elements of high-quality credit recovery

Interestingly, although online programming is the most frequently employed method of delivery, our respondents also reported it to be one of the least effective elements of high-quality credit recovery (in particular, digital

Figure 14. Least effective instructional method, by frequency of mention



curriculum without additional supports such as face-to-face time with a licensed content-area instructor). The frequency with which each instructional method was mentioned as being particularly ineffective is displayed in figure 14. Those who discussed the shortcomings of the online platforms described students struggling with working independently, without supports to learn the competencies. Additionally, even though the online platform does offer flexibility in scheduling, which can help to address some of the challenges students face, the platforms available to schools have been described as being either above or below the competency levels of the students taking

courses, which sets students up for failure. Those who described independent study noted similar barriers to success. One respondent noted that without a licensed content-area specialist, students in independent study were not given the support needed to learn the competencies missed the first time. Those who spoke about packet work as ineffective had strong opinions about the method of delivery. One respondent called packet work “blasphemy” in his program. One administrator gave an anecdotal story of a student who had taken his packet work home and had each member of his family complete a packet.

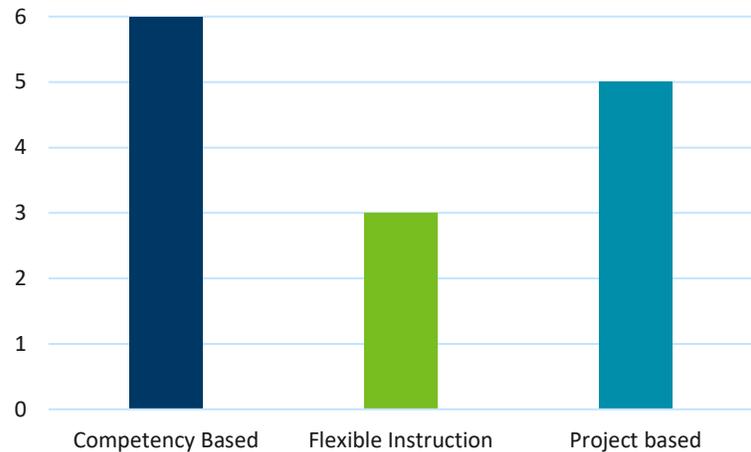
“So, we’re seeing that the standards-based demonstration of learning is just more of direct. If we can provide direct instruction in a smaller setting or a one-on-one is more effective. So, the computer piece is you know. We always talk about how technology is valuable. We are not seeing that in this case.”

—Holland Area Schools administrator

Most effective elements of high-quality credit recovery

There were 12 mentions of the most effective elements for high-quality credit recovery. The frequency with which each method was mentioned by respondents as being effective elements in high-quality credit recovery is shown in figure 15. These methods were often described as a method that programs were hoping to employ in the future, and were frequently described as methods they have not yet successfully implemented at scale. The most frequent types of instruction that programs reported wanting to employ were those that structured credit recovery around recovery competencies and using project-based instruction. Additionally, flexibility in instruction in order to “meet a student at the level they are at” was noted at least five times. Frequently mentioned was the desire to offer small-group instruction in which students were offered a variety of ways to engage with credit recovery materials, while being supported by a content-area licensed instructor. Most school administrators discussed desired changes to their programming to support a project-based and competency-based approach. Limited staffing and limited funding were the most common perceived barriers to implementing credit recovery in this way. Frustration with the lack of student learning and limited ability to provide the necessary supports in the current credit recovery models offered was prevalent among the schools we spoke to.

Figure 15. Most effective instructional method, by frequency of mention



“We need to be able to offer a variety of options, not just 100 percent online. We need to go back to either smaller supports, smaller one-on-one supports for students to get through the online curriculum or go back to something that’s not 100 percent online. ... I don’t want to say packets because that makes me about want to barf. But something that’s not 100 percent online.”

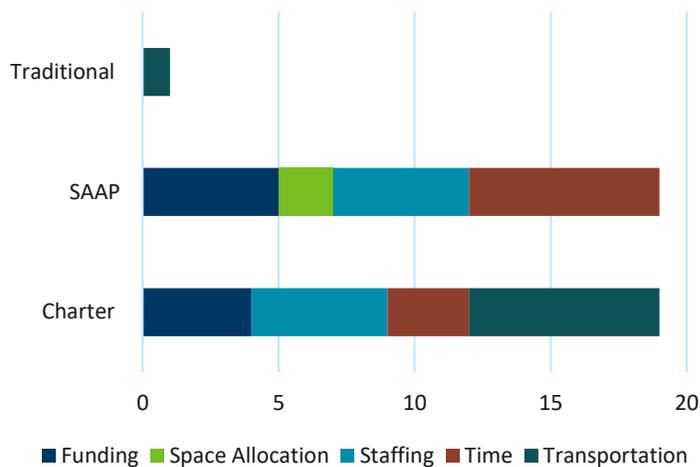
—Hardin ALC administrator

Implementation challenges

The frequency of mentions of unique implementation challenges for those we interviewed is displayed by program type in figure 16. Items were considered to be implementation challenges if they were spoke about as pressing problems of practice for programs. Despite the differences in how programming is offered, most programs reported similar challenges to implementation. Challenges included needing more staff to offer adequate credit recovery programming, more funding to hire staff, and management of transportation for students in credit recovery programs. Additional implementation challenges included the need to streamline communication among staff and to clarify procedures for grading and awarding credit.

Programs also mentioned challenges with garnering high student and parent investment. Some programs reported bringing in social workers and mental health specialists to help support students experiencing challenges in their home lives that might be restricting their progress toward graduation. Other programs

Figure 16. Implementation challenges, frequency of mention



reported that frequent communication with parents about student progress often helped to improve completion rates. Competing priorities, such as work, athletics, or family care, presented challenges in deciding what time of day is optimal to offer credit recovery. A few programs noted that they would like to expand the opportunity to offer credit recovery during the regular school day as opposed to outside of school time. By incorporating credit recovery into the school day some of the challenges of transportation and staffing would potentially be mitigated. However, offering recovery during the school day interferes with the need to take other courses. Although no

single respondent mentioned students with high failure rates as problematic in implementation, many seemed to struggle with what next steps should be taken to support these students. Often, students were dropped or referred to other programs.

“To better identify students using the online platform, especially independent study because it’s - it’s not a good fit for every student, especially our at-risk learners...I’m not seeing it work great for those kids that are - we’re asking them to spend hours outside of the school day on their - on their own at home working through coursework independently. So that’s something else we’re still trying to problem-solve because we have students that need to have an option to earn credits outside the school day because they are behind.”

—Briggs Public Schools administrator

The mode of delivery available and lack of fit with student needs was an issue that most programs identified. A common barrier to success was a lack of capacity to meet students where they are at using digital curriculum and a lack of engagement from students when they were participating in packet work or independent study. Increasing staffing and the quality of staffing was noted as being important in being able to differentiate instruction. Staff time to monitor and support students was also noted as a barrier to successful implementation. Almost all programs reported considering a move to standards-based comprehensive instructional strategies, yet no programs reported finding this task particularly easy to accomplish. In particular, the ability to staff and funding allocations made expanding this kind of model challenging.

Implementation successes

Many programs reported that making time for regular staff communication and collaborative evaluation of student progress enabled instructional staff to better support students in their credit recovery efforts. However, the administrator at Holland Area Schools school noted that the budget and school schedule does not support this collaboration time, making these efforts particularly challenging. TEC reported using a team model for supporting students, assigning each student an instructor coach and guidance counselor to monitor their progress, which they found has worked well to keep students on track in their credit recovery courses. Similarly, improving communication with all staff around credit recovery and improving communication between schools and programs as students attempt to recover credit were noted as being important in alignment and tracking students' success.

“We do a weekly meeting on Tuesday afternoons, and some of our part-time teachers come to it when they can. So it’s a lot of people. It’s like a good part of our staff. And I think that that helps us to not only be creative, but to share things that have worked. It’s like, yes, it’s individualized, but we also reuse the stuff that seems useful. So having all of those structures for our faculty and counselors and social workers to collide with one another, I think is what makes it move forward and makes the practice evolved.”

—Engle Online High School administrator

Programs mentioned strategies to increase student attendance and engagement as important successes in implementing credit recovery. Several programs mentioned regular formal communication with parents about student progress provided a successful and fairly simple strategy to improve attendance. The administrator at Saucedo District School relayed efforts to ensure that the school was a “warm, welcoming, safe environment” for students was key in keeping attendance high and keeping students engaged. As mentioned previously, many programs said the relationship with the student was pivotal in student success.

Last, successfully differentiating instruction for students was noted as both a challenge and success that many programs were trying to improve upon. The idea that “all students don’t learn the same” was frequently mentioned as a reason to put more effort into differentiating instruction and “meeting students where they are.” The online schools expressed that the flexibility in giving students extended time to complete courses and flexibility in location to participate in credit recovery gave students “multiple opportunities to succeed.” Saucedo District saw staffing the program with high-quality teachers as very important in expanding the ability to differentiate and meet students' needs. The ability for staff to “be creative” in how they approach recovery with students was also noted by several programs as important in being successful. Some schools that were able to structure at least a portion of their credit recovery in a way that allows for addressing standards-based competencies and using project-based work to show competencies noted the improved outcomes for students. However, not many programs reported the ability to create these kinds of courses. Those that did were only able to offer this type of instruction to a portion of students.

“I put a lot into the front end and made sure I hired a very good teacher, and the other thing is just allowing teachers time to be creative, and explore, and create their own work, and take ownership into it, and letting them have time to collaborate with each other.”

—Sucedo district administrator

Relationship building: Promising practices

The importance of developing relationships with students and parents as a strategy to improve student outcomes was mentioned 21 separate times in our interviews. Interestingly, none of the respondents in traditional schools noted a focus on building relationships. Most often, charter schools and SAAPs referenced the importance of building relationships with students in assisting them to complete credit recovery successfully. Some respondents mentioned the challenges of implementing digital curriculum as barriers to relationship development. One administrator noted that their concern with independent study and online credit recovery courses was that it lacked the opportunity to build relationships with the student and help to keep them engaged and persisting with completion of course requirements. Boyd ALC had previously relied on vendors to provide program content but expressed that they are moving toward developing content internally because they see greater value in the flexibility of self-created content by their own licensed content-area instructors.

Strategies to develop relationships varied from less intensive methods to more intensive and integrated efforts. Several programs mentioned developing relationships by increasing communication with parents through letters home or regular notices about student attendance and progress through a course. Duval Academy's administrator noted the importance of "knowing the student and the particular student's needs" in correctly assessing what kinds of additional supports a student might need to complete credit recovery. This element was particularly important because students in Duval Academy primarily recover credits independently in an online format. The administrator at H. Patton Charter School described advisory groups that are built into the school day as a successful way to build relationships with students and to keep them engaged as they try to complete credit recovery. The administrator noted the importance of having at least one staff member that a student could connect with and rely on to help them with challenges to success. Advisors also do home visits with their advisory students in an effort to develop lines of communication and a rapport with students' parents as well. This was the most intensive effort described by the programs we interviewed. Other strategies focused on building in time formally or informally to connect one-on-one with students frequently through the year. An important caution to note is that a balance must be had between efforts to develop relationships and efforts to ensure high-quality credit recovery programming.

"I think, one of the...more successful strategies that we've used is using homeroom advisory...to support that process.... [E]very student in our school should be able to identify one staff member to which they feel they have a good rapport and relation with.... [H]omeroom advisory time has really been a very critical foundation of our school that that's really set up those relationships and brings the counselor into the room as well as providing outlets for students that, if they've got social emotional needs that need support, too, it opens up to meet with the social worker that we have here...I think that's really served us well over the years."

—H. Patton Charter School administrator

Reflections and recommendations

The primary theme that emerged from these interviews was the variation in how credit recovery programming is being implemented, how instruction is delivered, access to licensed content-area specialists, and how credit is awarded. This finding is worrisome given that the students who are attempting credit recovery are often higher risk students than their peers and are more likely to be racial minorities and other traditionally underserved student groups. The key takeaways and recommendations from our final analysis of the data are as follows.

Findings summary

- Given an additional year or two beyond the traditional 4-year trajectory, many students enrolled in SAAPs and charters eventually complete graduation requirements.
- The availability of high-quality credit recovery disproportionately impacts students of color. Of the schools responding to the survey, more students of color are enrolled in SAAPs. Black students represent a small portion of the population (4 percent) within the responding traditional school districts but constituted a larger percentage in SAAPs (12 percent). Hispanic students represent a similarly small percentage of the student population (6 percent) in traditional settings but represent more than double that (13 percent) in SAAPs. Most students in SAAPs are engaged in credit recovery.
- There is great variation in program responses to questions about credit recovery implementation. These include delivery of instruction, access to content specialists, and awarding of credit. Approximately half (55 percent) of responding traditional schools reported requiring students to repeat the entirety of a failed course. This variation highlights concerns over equitable access to opportunities for all public-school students in Minnesota.
- Programs identified many elements considered best practices such as positive relationships with trusted adults; early interventions; flexibility of when, where, and how credit recovery is offered; recognition of prior learning; and competency-based awarding of credit. However, few programs are currently implementing these practices with fidelity.

Recommendations

- MDE should collaborate with practitioners and stakeholders to identify indicators of successful credit recovery programs.
- MDE should evaluate current resources that provide technical assistance related to credit recovery and create additional resources as needed.
- MDE should recommend the creation of a legislative task force to review statute and make recommendations to provide equitable access to high-quality credit recovery options.
- MDE should ensure that the SAAPs identified as either an ALC (41) or ALP (42) are aligned to the statutory qualifications for each and recategorized as indicated by the programming offered. This would include a process for recertification of independent study.

- MDE, the Professional Educator Licensing Standards Board, and the Board of Teaching should collaborate with alternative programs to examine the policies and procedures designed to ensure licensed content-area specialists are available to students.

References

- Anderson, L., & Fulton, M. (2015). *Multiple measures for college readiness* (ECS Education Trends). Denver, CO: Education Commission of the States.
- Brodersen, R. M., Yanoski, D., Mason, K., Apthorp, H., & Piscatelli, J. (2016). *Overview of selected state policies and supports related to K–12 competency-based education* (REL 2017–249). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Central. Retrieved July 10, 2019, from <https://files.eric.ed.gov/fulltext/ED572994.pdf>.
- Christle, C. A., Jolivet, K., & Nelson, C. M. (2007). School characteristics related to high school dropout rate. *Remedial and Special Education, 28*(6), 325–339.
- Hayes, R. L., Nelson, J. L., Tabin, M., Pearson, G., & Worthy, C. (2002). Using school-wide data to advocate for student success. *Professional School Counseling, 6*(2), 86–94.
- Heppen, J., Allensworth, E., Sorensen, N., Rickles, J., Walters, K., Taylor, S., et al. (2016). *Getting back on track: Comparing the effects of online and face-to-face credit recovery in Algebra I*. Washington, DC: American Institutes for Research and Chicago, IL: University of Chicago Consortium on School Research. Retrieved July 10, 2019, from <http://www.air.org/sites/default/files/downloads/report/Online-vs-F2F-Credit-Recovery.pdf>.
- Malkus, N. (2018a, February 17). Don't assume high school graduation fraud is only in D.C. It's not. *USA Today*. Retrieved July 10, 2019, from <http://www.usatoday.com/story/opinion/2018/02/17/dont-assume-high-school-graduation-scandal-only-dc-nat-malkus-column/332727002/>.
- Malkus, N. (2018b). *Second chance or second track? Credit recovery participation*. Washington, DC: American Enterprise Institute. Retrieved July 10, 2019, from <https://www.aei.org/publication/second-chance-or-second-track-credit-recovery-participation-in-us-high-schools/>.
- Protopsaltis, S., & Baum, S. (2019). *Does online education live up to its promise? A look at the evidence and implications for federal policy*. Retrieved July 10, 2019, from <https://mason.gmu.edu/~sprotops/OnlineEd.pdf>.
- Stallings, D. T., Weiss, S. P., Maser, R. H., Stanhope, D., Starcke, M., & Li, D. (2017). *Stated briefly: Academic outcomes for North Carolina Virtual Public School credit recovery students*. Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and

Regional Assistance, Regional Educational Laboratory Southeast. Retrieved July 10, 2019, from https://ies.ed.gov/ncee/edlabs/regions/southeast/pdf/REL_2017217.pdf.

Sturgis, C., & Patrick, S. (2010). *When success is the only option: Designing competency-based pathways for next generation learning*. Vienna, VA: International Association for K–12 Online Learning.

Taylor, S., Clements, P., Heppen, J., Rickles, J., Walters, K., Sorensen, N., et al. (2017). *Getting back on track: The role of in-person instructional support for students taking online credit recovery*. Washington, DC: American Institutes for Research and Chicago, IL: University of Chicago Consortium on School Research. Retrieved July 10, 2019, from <https://www.air.org/system/files/downloads/report/In-Person-Support-Credit-Recovery.pdf>.

U.S. Department of Education, Office of Planning, Evaluation and Policy Development. (2018). *Issue brief: Credit recovery*. Washington, DC: Author. Retrieved July 10, 2019, from <https://www2.ed.gov/rschstat/eval/high-school/credit-recovery.pdf>.

Viano, S., & Henry, G. T. (2018, November). *An evaluation of credit recovery as an intervention for students who fail courses*. Panel paper presented at the 2018 Association for Public Policy Analysis and Management Fall Research Conference. Retrieved July 10, 2019, from <https://appam.confex.com/appam/2018/webprogram/Paper26158.html>.

Walters, K., Heppen, J., Rickles, J., Clements, P., & Taylor, S. (2017). *Getting back on track: What math content is taught and learned in online and face-to-face algebra credit recovery courses?* Washington, DC: American Institutes for Research. Retrieved July 10, 2019, from <http://www.air.org/system/files/downloads/report/Math-Content-Online-Credit-Recovery-Courses-February-2017.pdf>.