

RESPECTIVE SOLUTIONS GROUP

External Evaluation of Cohort 10, 21st Century Community Learning Centers (CCLC) Grant
2019-2020 School Year (Year 1 of Cohort 10 Grant, *Expanded Serving of K-8th Grades*)

Regularly Attending School Districts Served:

Blacklick Valley (2nd-5th grades)

Cambria Heights Elementary/Middle (K-7th grades)

Central Cambria Elementary (K-5th grades)

Jackson Elementary (K-2nd grades)

Central Cambria Middle School (6th-8th grades)

Glendale Elementary (K-2nd grades)

Harmony Schools (K-6th grades)

Northern Cambria (K-7th grades)

Portage Schools (K-6th grades)

St. Michael's School (K-8th grades)

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External Evaluator

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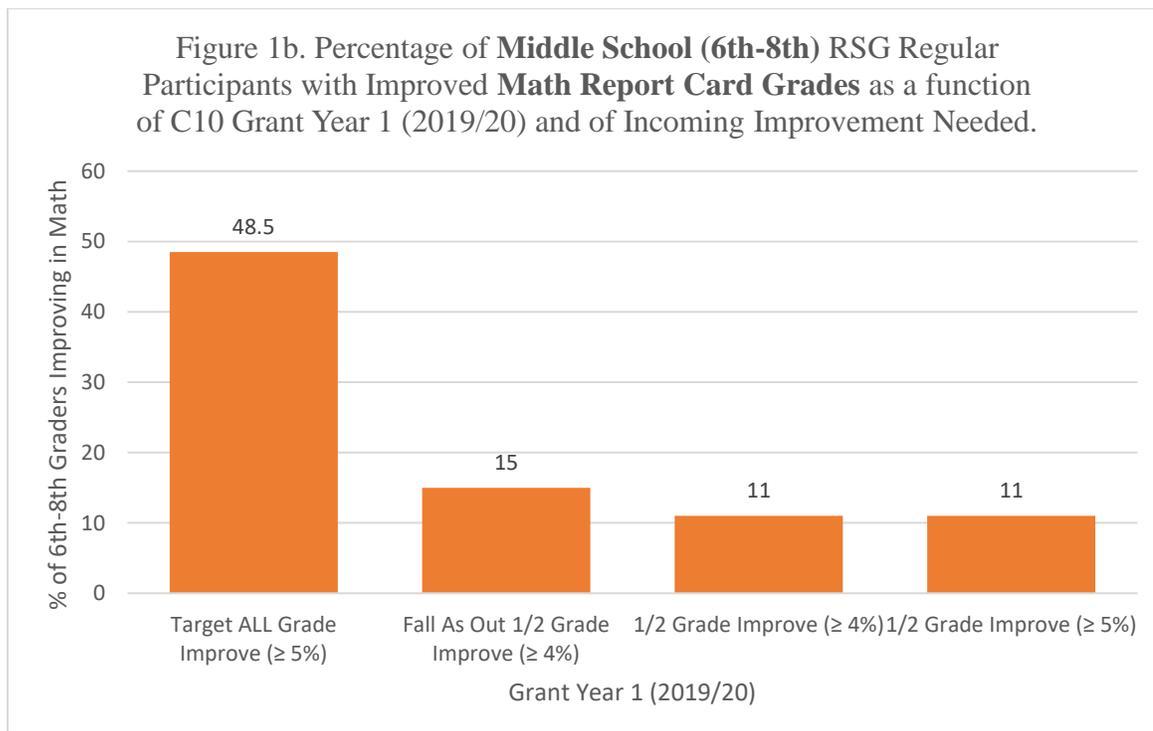
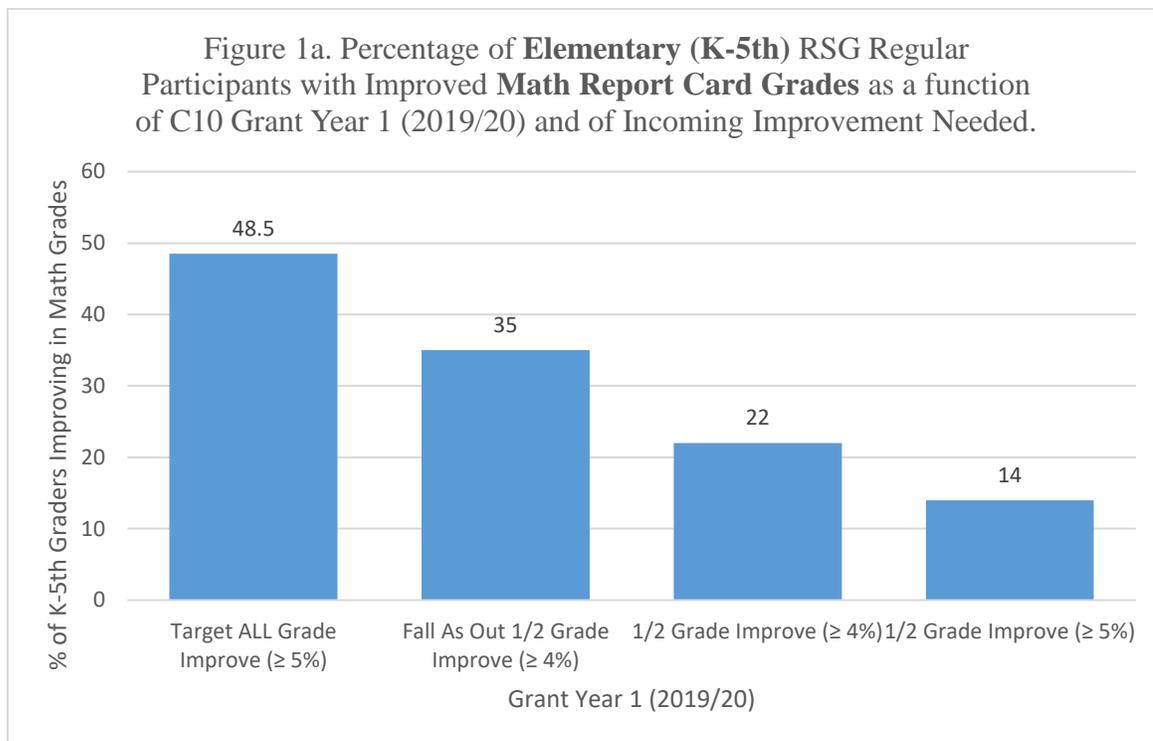
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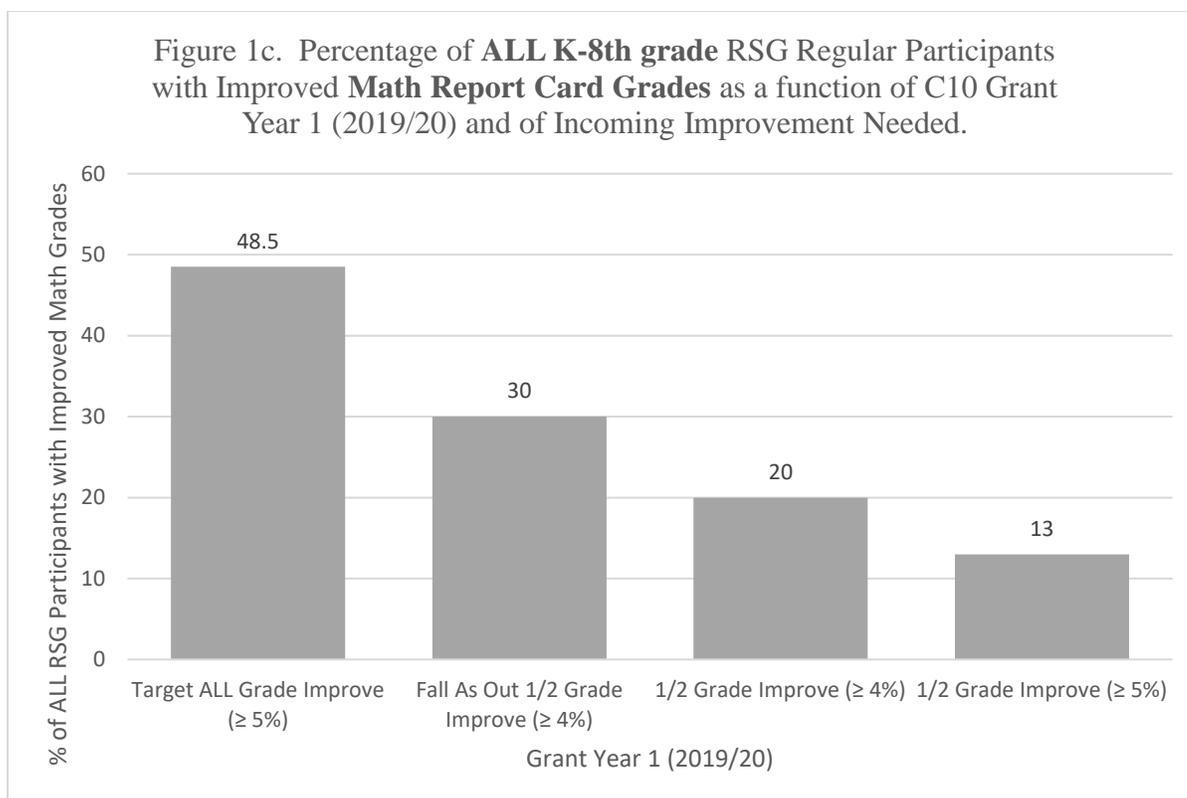
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II. C10 Year 1 RSG Executive Summary and Recommendations

A. Summary of 21st CCLC Grant Performance Measure 1 and Recommendations





Cohort 10 (C10) Year 1 data reflects an expansion of RSG services to include two new school districts, Portage and St. Michael's, beyond the eight existing schools. Also, across the majority of the elementary schools, grade levels for which RSG services were provided expanded from 3rd-5th grades to now include K-5th grades. Given that C10 Year 1 also included the COVID-19 pandemic disruption to normal school learning processes in March 2020, this first year was notable as one of great transition for RSG programs. All specific C10 Year 1 grant performance outcomes are individually listed in Table 3 later in the report.

Figures 1a-1c above show RSG regular participants' improved math report card grades from fall to spring semester in C10 Year 1, 2019/20 (see also Tables 3, 6a-6b, 6e, and 7a-7b for other breakdowns). Figure 1a shows elementary math grade improvements in blue, Figure 1b shows middle school math grade improvements in orange, and Figure 1c combines all K-8th grade RSG participants' math improvements using gray bars.

Figures 2a-2c below show RSG regular participants' improved reading report card grades from fall to spring semester in C10 Year (see also Tables 3, 6c-6d, 6f, and 7a-7b for other breakdowns). Figure 2a shows elementary reading grade improvements in yellow, Figure 2b shows middle school reading grade improvements in green, and Figure 2c combines all K-8th grade RSG participants' reading improvements using gray bars.

The multiple bars within each of Figures 1a-1c and 2a-2c are used to emphasize that there are a few different ways to calculate report card grade improvement, as improvement is defined as "an increase by half a letter grade". The right-most bar in each graph reflects half a letter grade improvement as any student who increased their grade from fall to spring by 5% or more, as

Figure 2a. Percentage of **Elementary (K-5th)** RSG Regular Participants with Improved **Reading Report Card Grades** as a function of C10 Grant Year 1 (2019/20) and of Incoming Improvement Needed.

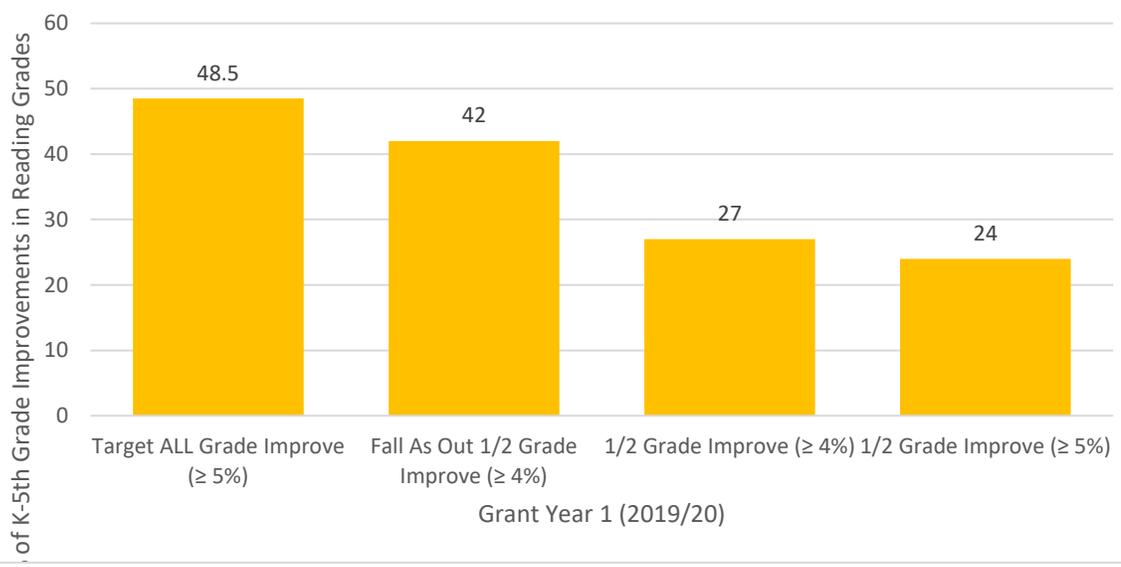
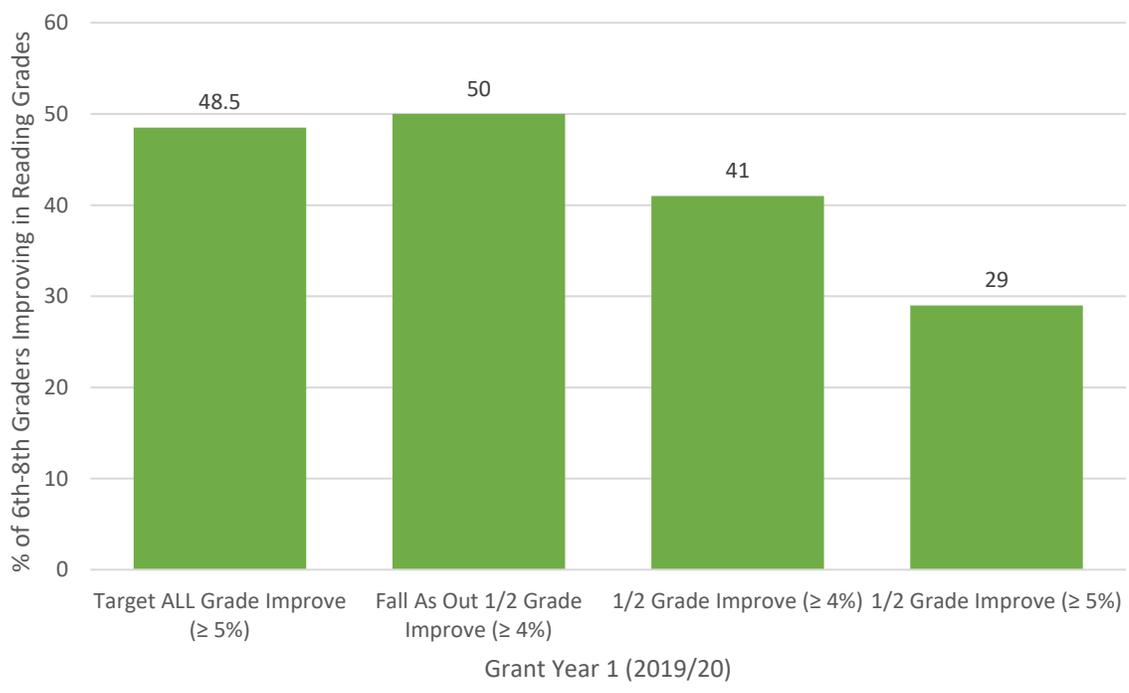
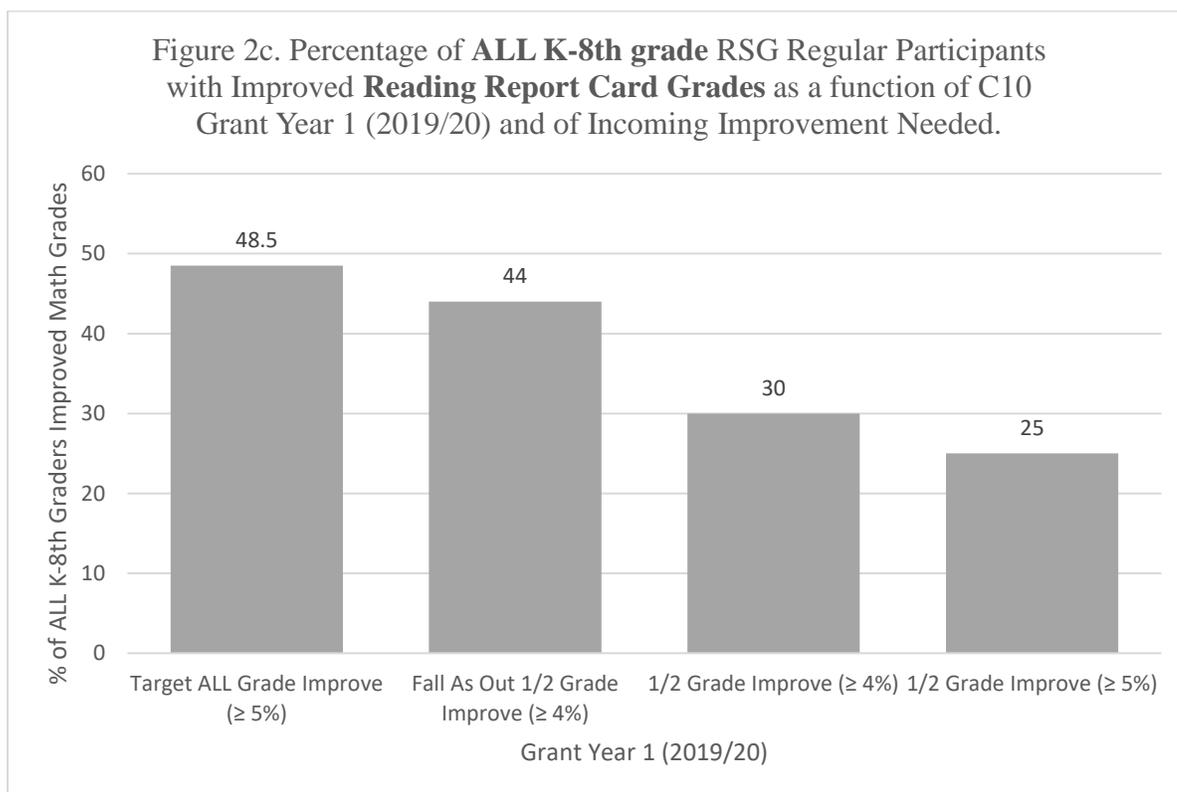


Figure 2b. Percentage of **Middle School (6th-8th)** RSG Regular Participants with Improved **Reading Report Card Grades** as a function of C10 Grant Year 1 (2019/20) and of Incoming Improvement Needed.



required for grant reporting purposes. Given that all RSG school districts actually define half a letter grade improvement as increasing grades by 4% or more, the second bar from the right end in each graph is used to show the percentage of regular RSG participants who attained that more accurate definition of improvement. The second bar from the left end in each graph reflects the increasing grades by 4% or more AS WELL AS removal of students who had already achieved a high level of grade performance at the beginning of the school year (i.e., those earning a 92% or higher in the fall semester). Removal of fall A-grades was done to eliminate those who did not have much room for improvement to begin with. All three of these RSG regular participant percentages per graph can be compared to the grant target percentage bar at each graph's far left.



Using the various possible grade improvement calculations within Year 1, Figure 1a shows that K-5th math grades improved from 14-35%. Math grades improved for 6th-8th grade levels from 11-15% (see Figure 1b). K-5th reading grades improved from 24-42% (see Figure 2a). Reading grades improved for 6th-8th grade levels from 29-50% (see Figure 2b). These results show that, after removing fall A-grade youth from analyses, reading grade improvements approached the 48.5% target level for K-5th graders (at 42%) and surpassed the target for 6th-8th graders (at 50%). Overall, C10 Year 1 reading grade improvements from K-8th grades, ranging from 25-44% (see Figure 2c), were higher and closer to meeting the 48.5% target than K-8th math grade improvements at 13-30% (see Figure 1c). Future year C10 report card grade comparisons should be made within the context of understanding that RSG Year 1 grade improvements were obtained DESPITE the COVID-19 pandemic year, DESPITE the expansion of new services to

K-2nd graders across most elementary schools, and DESPITE the new services implemented at two additional school districts (Portage and St. Michael's).

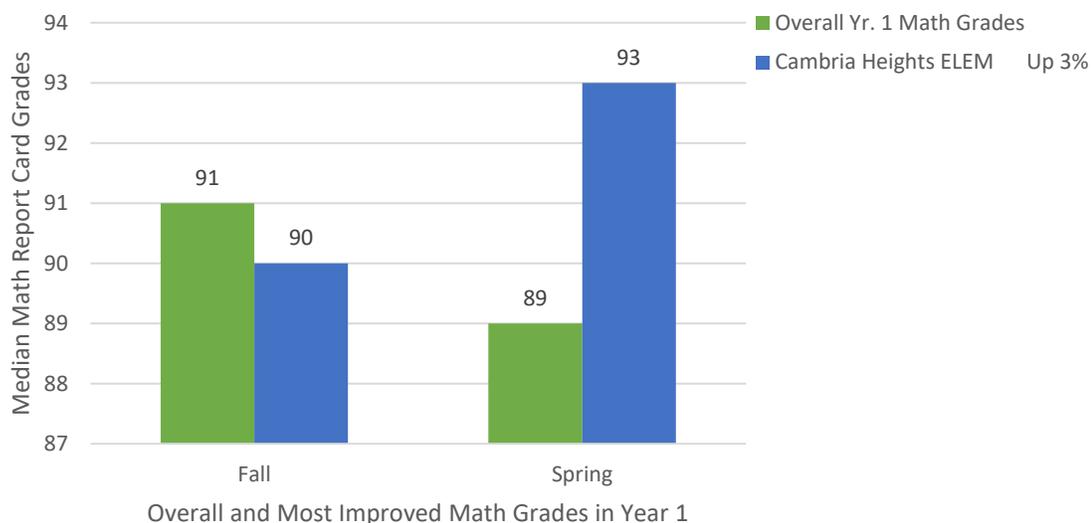
Kuhfeld et al. (2020)¹ nicely summarized the myriad of learning influences related to just the pandemic alone, acknowledging how difficult it was to accurately project trauma-related impact using nation-wide educational assessment data from 5 million 3rd-8th graders. Although the majority of U.S. schools were able to offer remote learning from March 2020 on, many teachers and RSG tutors had little experience with online instruction and there were large gaps in technology access across the U.S. This clearly impacted Central PA as RSG school districts had to spend much time and energy securing sufficient laptops to distribute to youth for at-home learning. Many working parents were struggling to educate and care for their children within the broader context of a major economic downturn, job losses, widespread protests over racial injustice, and COVID-19 health concerns for themselves and family members.

Gewertz reported that when teachers were asked how the pandemic impacted learning, teachers estimated that students received half the instruction they normally would have while schools were closed (Kuhfeld et al., 2020). This led Kuhfeld et al. to project the first Partial Absenteeism scenario, based on the idea that pandemic-year student learning may be comparable to being absent 50% of the time under normal conditions. If the Partial Absenteeism scenario was most correct, American youth nation-wide were predicted to start the 2020/2021 school year (C10 Year 2, for which no data is yet available) with only 60-87% of previous year gains. The second COVID Slide scenario projected by Kuhfeld et al. was based on Hurricane Katrina learning patterns, suggesting that it may be possible to assume school closures of Spring 2020 were equivalent to starting summer break in March, approximating it by typical rates of summer learning loss between grade-level promotions. "Under the COVID Slide projections, students were predicted to end the abbreviated 2019-2020 school year with roughly 63-68% of the learning gains in reading but only 37-50% of the average gains in mathematics compared with those of a normal school year" (Kuhfeld et al., p. 556). Kuhfeld et al. even extends the COVID Slide projections to the beginning of C10 Year 2 when they argue, "Under our projections, returning students are expected to start fall 2020 with approximately 63 to 68% of the learning gains in reading and 37 to 50% of the learning gains in mathematics relative to a typical school year. However, we project that losing ground during the school closures was not universal, with the top third of students potentially making gains in reading" (see Abstract). The third, most dire Full Absenteeism projection assumed 100% absence from March 2020 on based on the absentee education data literature. This third projection, predicts that by the end of C10 Year 1, 2019/20, 6th-7th graders would show less than 30% of typical learning gains in both math and reading.

Figure 3a shows we can be 99% confident that RSG math grades on average significantly declined by 2% in Year 1 overall once blue-coded pass/fail schools were removed from fall grades. However, we can be 95% confident that RSG reading grades on average improved by 1% in Year 1 (see Figure 3b).

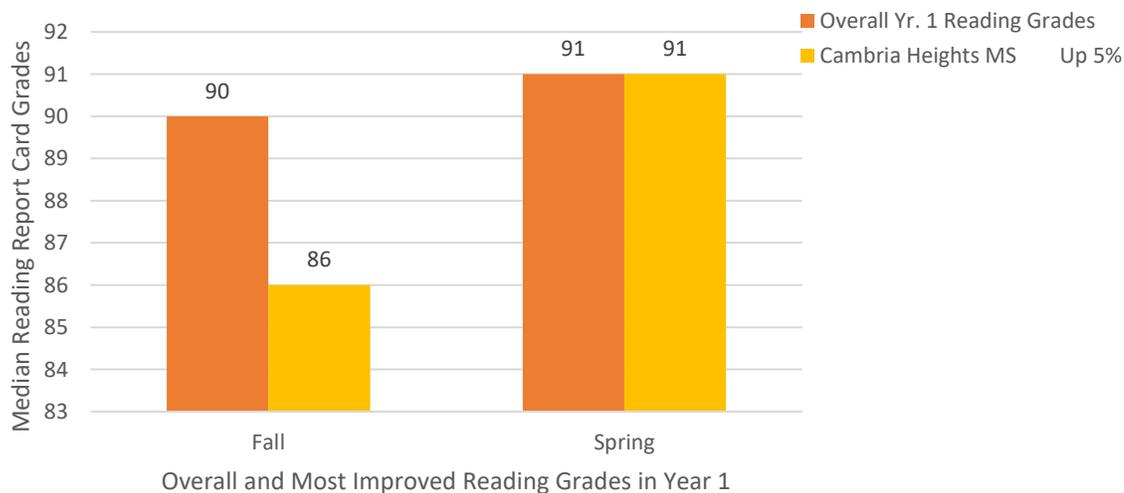
¹Kuhfeld, M., Soland, J., Tarasawa, B., Johnson, A., Ruzek, E., & Liu, J. (2020). Projecting the Potential Impact of COVID-19 School Closures on Academic Achievement. *Educational Researcher*, 49 (8), 549–565. DOI: 10.3102/0013189X20965918

Figure 3a. Median Fall to Spring **Math Report Card Grade** Improvements Overall (K-8th grade) and for "Most Improved School" during C10 Grant Year 1 (2019/20).



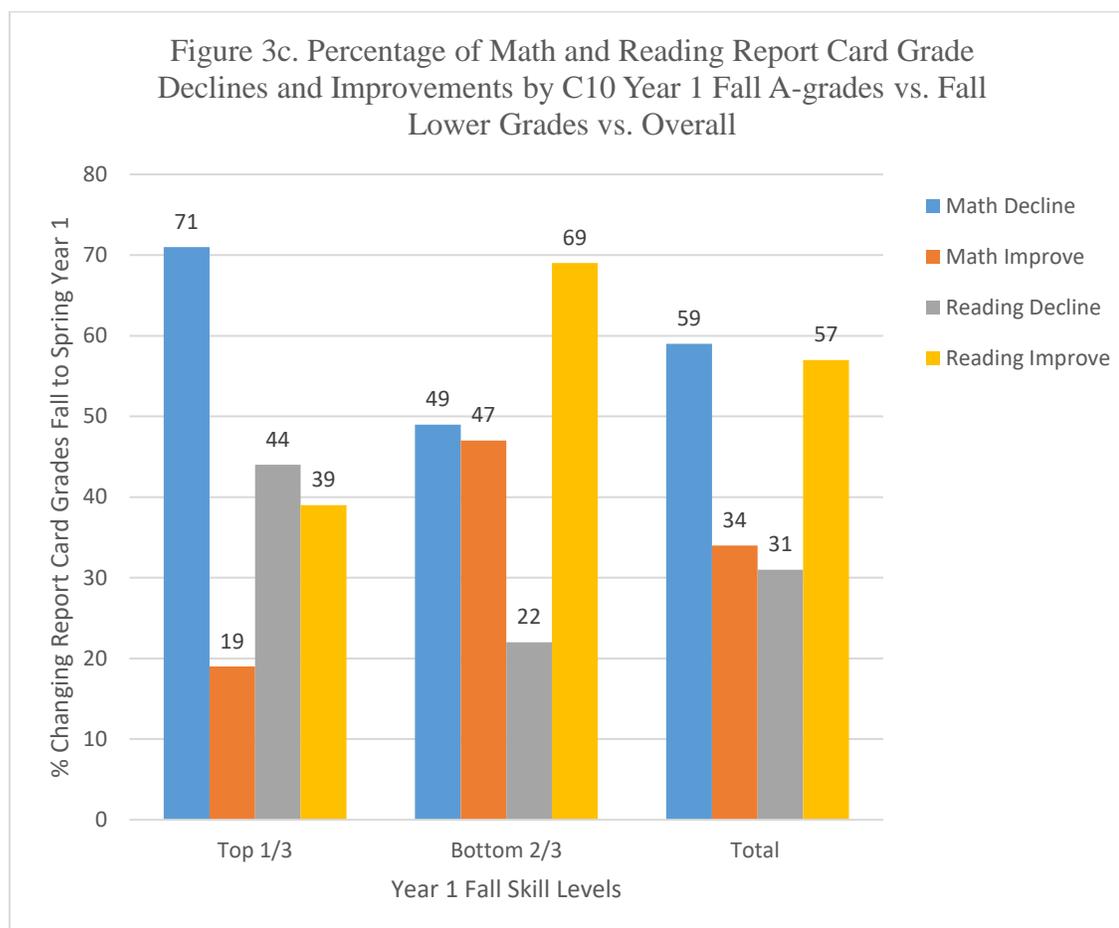
Note 1. Table 7a later in the report shows we can be 99% confident that math grades on average significantly declined by 2% in Year 1 overall, once blue-coded pass/fail schools were removed from fall grades. Aside from Cambria Heights Elementary showing math grade improvements (n = 15-16), only one other school in Year 1 showed math grade improvements (Northern Cambria Middle School; n = 1). All other Year 1 schools showed declines in math grades or were given pass/fail grades at some point that year (see Table 6a).

Figure 3b. Median Fall to Spring **Reading Report Card Grade** Improvements Overall (K-8th grade) and for "Most Improved School" during C10 Grant Year 1 (2019/20).



Note 1. Table 7a later in the report shows we can be 95% confident that math grades on average significantly improved by 1% in Year 1 overall, once blue-coded pass/fail schools were removed from fall grades. Table 6c shows that other school districts varied widely, as some improved, some showed no change, and some declined in reading within Year 1.

If we examine the percentage of RSG youth who showed ANY report card grade improvement (by $\geq 1\%$) or ANY grade declines (by $\leq -1\%$), there is a clear reversal in pattern for math and reading (see Figure 3c). Whereas 60/101 (59%) of K-8th graders declined from fall to spring in their math report card grades, 7/101 (7%) showed no change and only 34/101 (34%) improved their math grades by 1% or more. On the other hand, 32/105 (31%) of K-8th graders declined from fall to spring in their reading report card grades, 13/105 (12%) showed no change and 60/105 (57%) improved their reading grades by 1% or more.



Note 1. For math grades overall 7% showed no change from fall to spring in Year 1, which explains why the percentages in the graph above do not add up to 100%. For reading grades overall 12% showed no change from fall to spring in Year 1. Table 7b later in the report provides a fuller set of percentages. Grade changes from fall to spring were not broken down by elementary vs. middle school here since the majority direction of grade change remained consistent for each subject area.

Note 2. The Top 1/3 of Year 1 youth were identified as those who in Fall 2019 earned an A grade in any subject area of 92% or higher. The bottom 2/3 all earned 91% or less in Fall 2019. Improvement was counted when RSG youth improved from fall to spring by 1% or more, whereas decline meant their grades dropped by 1% or more over Year 1.

It is somewhat difficult to compare Kuhfeld et al.'s (2020) pandemic projection data to RSG data directly, since the former a) requires us to wait for future C10 grant year data to be collected and b) is based on standardized education assessment results, while the C10 Year 1 RSG data relies on immediate report card grades. However, Kuhfeld et al.'s nation-wide projections provide the

much-needed benchmark context to lay the foundation for fully grasping why C10 Year 1 results are likely to be lower than future C10 grant years. Overall across K-8th grade, Figure 3c highlights the most liberal emphasis that the majority of RSG youth in Year 1 showed math report card grade declines (59% dropping on average by 1% or more) during the pandemic year 2019/2020 but the majority showed reading grade improvements (57% increasing on average by 1% or more) that same year. Only 34% of RSG youth in C10 Year 1 improved their math report card grades by 1% or more. More conservatively, if we define K-8th grade RSG report card grade improvement for all youth by half a letter grade (4-5%, leaving out removal of fall A-grade estimates), instead of by a change in 1% or more, C10 Year 1 reading improvements ranged from 25-30% (see Figure 2c), while math improvements ranged from 13-20% (see Figure 1c). No matter how report card grade improvement is defined for RSG data, it generally supports Kuhfeld et al.'s projections that math was more negatively impacted by COVID-19 than reading in central Pennsylvania! This was especially true for middle school math improvements (see Figure 1b).

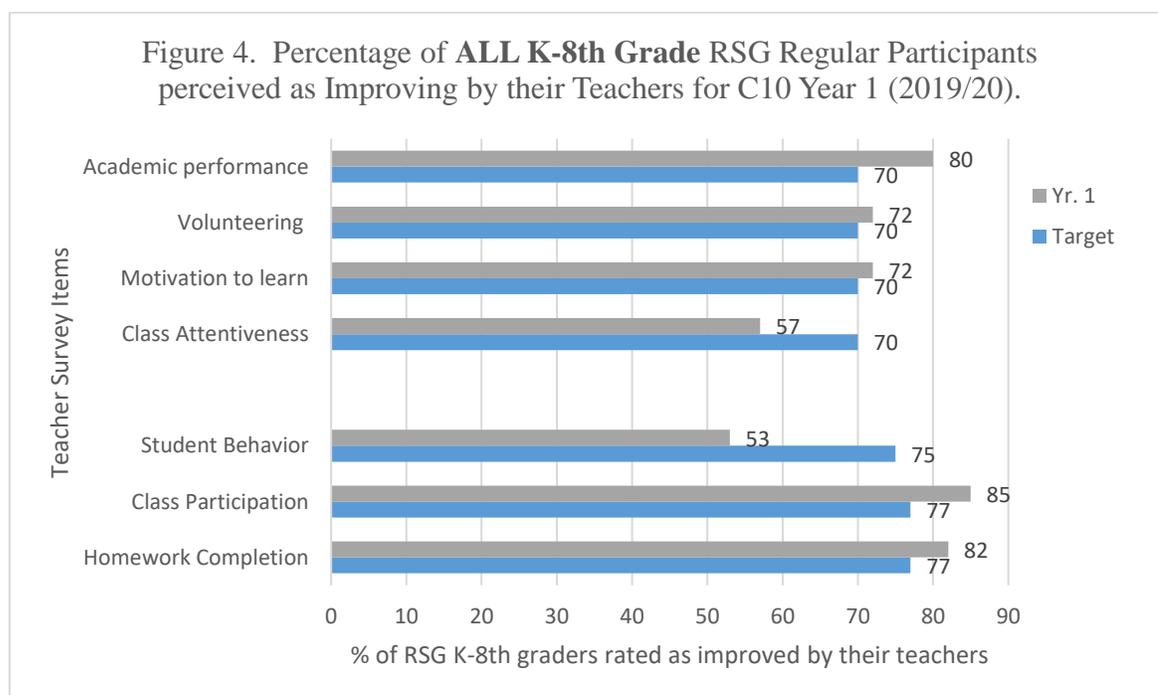
Figure 3c RSG data only partially supports the Kuhfeld et al. (2020) projections, though. While C10 Year 1 reading definitely yielded more positive learning improvements than math despite the pandemic, it was not the top 1/3 of RSG youth who were most responsible for this pattern as Kuhfeld et al. predicted (see also Table 7b later in the report). Figure 3c shows that 69% of the Bottom 2/3 of C10 Year 1 RSG youth showed reading grade improvements, while only 39% of the Top 1/3 did so. Also, 47% of the Bottom 2/3 of RSG youth showed math grade improvements, whereas only 19% of the Top 1/3 did so. Given that improvement was defined as $\geq 1\%$ only in Figure 3c, these results cannot mainly be driven by the Top 1/3 having insufficient room to improve; only 8% of Year 1 RSG youth earned 100% in math (6/73) and 3% earned 100% in reading (2/77) in Fall 2019.

Why did the Bottom 2/3 of C10 Year 1 RSG youth improve both math and reading report card grades to a greater degree than the Top 1/3 (see Figure 3c)? One possibility is that the COVID-19 pandemic may have been used by more of the Top 1/3 of America's youth to take a break from learning. Since they are more likely to be anxious about maintaining their own academic achievement typically, the Top 1/3 may have especially eagerly seen March 2020 as a much-needed opportunity to relax their own learning expectations a bit. Alternatively, perhaps the Top 1/3 were less able to quickly adapt to unexpected social upheaval; maybe their higher academic-related anxiety actually made them more likely to "freeze" when traditional learning switched to mainly virtual learning. A third interpretation is that COVID-19 family-related trauma may have, ironically, provided even less parental support than usual for the Top 1/3 than for the Bottom 1/3 of RSG youth in report card grade achievement. In other words, it seems likely that the Bottom 1/3 of youth nation-wide are *more likely to be used to* regularly receiving less parental support for their own academic success. Therefore, perhaps teachers and after-school tutoring programs have unwittingly adapted to this by devoting the most time and energy to helping the Bottom 2/3 of youth complete their homework to help them compensate for their at-risk status. With the sudden pandemic disrupting *all parents' ability* to help youth with their homework, it is possible that the Top 1/3 of RSG youth were most negatively impacted for both math and reading, rather than the least impacted in reading, as predicted by Kuhfeld et al. (2020).

Recommendation 1: RSG tutoring staff may want to consider receiving additional training in “Best Practices in Virtual Learning”, in order to most effectively support the challenges of adapting to the need for continued, high reliance on technology in central PA during C10 Year 2. Focusing on virtual learning strategies, especially aimed at middle school math skills (see Figure 1b) and elementary school reading skills (see Figure 1c), may benefit RSG youth most.

Recommendation 2: Also, future community engagement collaboration with Saint Francis University students could shift from Positive Action activities, as done in Year 1 (see Section C of this summary and Section G of the full report), to creation of C10 virtual learning activities corresponding to age-appropriate PDE math and reading standards. Given the continued need for social distancing in Year 2, the most flexible, useful university-level community engaged partnership with RSG youth will most likely occur virtually. This may especially help to compensate for the Year 1 results, showing that the Top 1/3 of RSG youth did not show as much report card grade improvement in math or in reading as the Bottom 2/3 of youth did. Virtual activities provided by university students may appeal to the Top 1/3 of K-8th graders in particular, if they are by habit more used to independent work.

B. Summary of 21st CCLC Grant Performance Measures 2-3 and Recommendations



Note 1. Teacher Survey Items 1-4 at the top of Figure 3 had targets arbitrarily set at 70% to correspond to previous years' estimates, even though for Cohort 10 no target percentages were set for them. Only the bottom three Teacher Survey Items on Improvements in Student Behavior, Class Participation, and Homework Completion had C10 targets set between 75-77%.

Note 2. For teacher-rated improvements in Student Behavior, K-5th graders improved by 53% and 6th-8th graders improved by 50%; neither grade level reached the target of 75%. For improvements in Class Participation, K-5th graders improved by 85% and 6th-8th graders improved by 82%, both surpassing the target of 77%. For improvements in Homework Completion, K-5th graders improved by 82% and 6th-8th graders improved by 84% in Year 1, both surpassing the target of 77%. Tables 4-5 also list these results.

Figure 4 shows the Year 1 Teacher Survey results based on teachers' end-of-year ratings of how much they perceived RSG youth as improving in various areas (see bottom three items in Figure 4 for grant performance indicators with targets from 75-77%). The C10 grant goals were especially focused on improvements in student behavior, class participation, and homework completion. Figure 4 verifies that RSG tutoring was able to surpass the 77% improvement targets for both homework completion (82% of K-8th graders improved) and class participation (85% of K-8th graders improved)! This was quite a feat for a year in which new RSG services were provided to two additional school districts and to three additional elementary grade levels across most elementary schools, aside from the need to adapt virtually in the spring semester in response to the COVID-19 pandemic year.

Additional analyses of the Year 1 Teacher Survey data allowed comparison of teacher perceptions of the Top 1/3 vs. Bottom 2/3 of RSG youth. Supporting the Figure 3c report card data, teachers perceived a consistently higher percentage of the Bottom 2/3 of youth than the Top 1/3 as improving at homework completion (7-13% more), behavior in class (5-8% more), and academic performance (11-17% more). For these three Teacher Survey item improvement ranges, the lower numbers were found when the two groups were divided based on Fall 2019 reading grades and the higher numbers were found when dividing the groups by fall math grades. So Year 1 teachers not only perceived the Bottom 2/3 of RSG youth as more clearly improving in math than in reading, but also perceived them as consistently improving more in homework completion, class behavior, and academic performance relative to the Top 1/3 of youth.

Regarding the three earlier interpretations of Figure 3c results, then, for why the Bottom 2/3 improved more than the Top 1/3 in report card grades, the Teacher Survey data appears to best support the third alternative. Since 0% of all RSG youth in Year 1 declined in their Class Behavior, only 1% of the Bottom 2/3 of youth declined in Academic Performance, and 4% of the Top 1/3 declined in Academic Performance, the evidence does not support that the majority of highest achieving youth as of Fall 2019 took extra advantage of the pandemic to relax (i.e., Interpretation 1). Also, Interpretation 2 - that the Top 1/3 were less able to socially adapt to the pandemic upheaval, lacks Teacher Survey support, since the Top 1/3 (22-27%) were even more likely to show "No Change" in class behavior over Year 1 than the Bottom 2/3 (17-19%, depending on math or reading divisions). Therefore, it is possible that the pandemic upheaval led both teachers and other social support networks generally to devote their more constrained attention and resources to the most at-risk RSG youth, assuming that the Top 1/3 could better fend for themselves.

Recommendation 3: RSG staff should continue to develop new ways to help all C10 youth work on improving their behavior during class time, as this is the main area where the least Teacher Survey improvements have been noted (see Figure 4).

Recommendation 4: Virtual math and reading activities could be developed by SFU university students that facilitate both individualized learning to address unique RSG youth needs and small group collaborations to encourage the Top 1/3 of RSG youth to better enhance their own learning by serving as role models and leaders for the Bottom 2/3 of youth.

C. New Saint Francis University and RSG Community Engagement Collaboration and Recommendation

Dr. Marnie Moist, the external evaluator and author of this grant report, is also a psychology professor who teaches PSYC 201-202 Research Methods and Statistics I-II each fall and spring semester at Saint Francis University in Loretto, PA. Over the past few years Dr. Moist and RSG have had discussions on how Saint Francis University students could collaborate with RSG in a mutually beneficial way that would improve both university student learning and RSG youth quality of Positive Action Program activities. A Cohort 10, Year 1 idea was implemented related to RSG's locally-defined indicator "Youth indicating interest in technology and tech-based careers", for which 20% was the target for youth interest expressed.

For the first time in Cohort 10, Year 1, 41 Saint Francis University (SFU) students were able to create and implement PA Career Day activities with 147 elementary and middle school RSG youth from 10 different RSG schools after receiving all required school clearances (see the final Section G of this report for details and sample Career Day materials used). Of these 147 youth, 118 (80%) provided useable data for our research based on the difficulty of tracking youth who were gradually picked up by parents earlier than expected and the gradual loss of most kindergartners to alternative-option PA Career coloring activities throughout the planned SFU career activities. October 1, 2019 was Reaching Every Door (R.E.D Day) at SFU, an annual day of service to the local community. Dr. Moist, along with individual school district tutoring staff, supervised 41 SFU students from her PSYC 201 class as they used the Pennsylvania Department of Education Career Standards to create and implement age-appropriate career awareness learning activities at all 10 local RSG schools.

On R.E.D Day, 3-4 university students each visited 10 central PA schools to implement Career Day activities. RSG youth were encouraged to identify preferred youth activities that corresponded to the Holland Career Code categories, then were encouraged to match some youth interest areas with possible future careers and discuss what kind of post-high school training would be needed to achieve those careers. RSG youth then played Career Bingo as they learned the 16 PA Career Clusters and identified their favorite cluster with a large sticker at the end of the game for data collection. Youth were also encouraged to use from 1-5 small stickers on any other of the 16 PA cluster Bingo card boxes to show other future career interest areas. Attached to the back of each Bingo card before RSG youth left for the day was the child's "My Name is" sticker, which included their first specific choice of future career they identified before all the CAREER Day activities even began.

Later PSYC 201 data analysis (see Poster 1, Section G) verified that while female RSG youth about equally selected 1st choice future careers that were STEM (48%) vs. non-STEM (52%) careers, male youth overwhelmingly preferred non-STEM career (80%) choices to STEM (20%). Because this contradicts most past STEM research, showing that more males than females actually enter STEM careers as adults, the most likely explanation for this reversal was that 38/41 (93%) of the SFU students who visited area schools were females, who were instructed by Dr. Moist to introduce themselves as university students who were learning how to do science. It is highly likely that this self-introduction by overwhelmingly female university students inspired the K-8th grade females to temporarily increase their attention on STEM-related careers when

they were asked what they wanted to do when they grew up – this priming of young females towards STEM careers occurred at the very start of the CAREER Day activities, leading overall 36% of the RSG youth across 10 schools to select a STEM-related career to write on their “My name is…” sticker during the introduction phase. The 36% of RSG youth selecting name tag STEM careers for what they wanted to do when they grew up surpassed the 20% target for Cohort 10, Year 1 set as a local grant indicator; it appeared to be accomplished just by having 93% of the university CAREER Day presenters be females introducing themselves as being there to learn how do science!

What happened at the end of the Career Day hour-long activities, culminating in the Bingo card with the 16 PA Career clusters and use of large sticker to identify favorite future career with small stickers to identify any future career interest area? By this point only 97 participating RSG youth remained to provide data, and only 4/97 (4%) placed their ONE large sticker on PA Career Cluster 15 (STEM box) to show it was their favorite future career. However, 38/97 (39%) placed one or more of their small stickers on the PA STEM Cluster 15 box, showing that 39% still had interest in STEM careers by the end of the CAREER Day activities. There was no significant relationship between gender and small sticker placement in STEM Box 15 vs. the other non-STEM boxes, although slightly more male RSG youth indicated some interest in STEM future careers 19/45 (42%) than the 19/52 female youth (37%) who did. Most notably, even by the end of CAREER Day, both males and females about equally expressed interest in future STEM careers that surpassed the target of 20%!

In PSYC 202 during Spring 2020 three female SFU students were luckily able to collect even more research data as they interacted with 39 RSG youth from three RSG schools in February 2020 (pre-pandemic) to carry out even more Positive Action Program activities (see Poster 2, Section G). This time RSG youth were taught how to write S.M.A.R.T academic goals (Specific, Measurable, Attainable, Reason, Timely) by the three SFU students. Results of this data collection process verified that neither youth self-selected role models from their own past experiences, varying in realism and familiarity, nor type of first future career desired (STEM vs. non-STEM), as selected by RSG youth, appeared related to the quality of the S.M.A.R.T goals they created. However, females wrote significantly higher-quality S.M.A.R.T goals than males, and middle school students wrote better goals than elementary students.

To summarize, SFU psychology students found the following main results:

- RSG females (48%) may have been more unconsciously influenced than RSG males (20%) to select a future STEM career as what they wanted to be when they grew up on their “My name is..” name tags before CAREER Day activities even began, since 93% of the university role models were female.
- By the end of CAREER Day activities 42% of males and 37% of females both about equally expressed some interest in a future STEM career by placing one or more of their 5 small stickers on STEM Box 15 of the PA 16 Career Clusters Bingo Card. This surpassed the 20% target of STEM career interest set by RSG as a local grant performance indicator. Only 4% of RSG youth overall selected STEM Box 15 as their favorite career area by placing their large sticker on it.
- Females wrote significantly higher-quality S.M.A.R.T goals than males.

Recommendation 5: Additional PA Career Cluster activities could be used by RSG in the future to help more youth transition from showing some interest in future STEM careers to selecting STEM careers as their ONE favorite future goal. Linking S.M.A.R.T goal-writing practice to attention to future careers in STEM would also be beneficial, particularly for male youth who may be less inclined to attempt to plan out their futures and who may especially be at-risk for low academic performance.

III. Results for Cohort 10 Year 1 (2019-2020) Respective Solutions Group

D. Demographics

Table 1a. Cohort 10 Regular Attending RSG Students Served in Year 1 (2019/20).

COHORT 10 All K-5 th Elementary All 6 th -8 th Middle	Year 1 Regular Attendees ¹
TOT	220
Elementary (K-5 th grades)	188 (85%)
Middle School (6 th -8 th grades)	32 (15%)

Note 1. Regular attending participants were defined as those students who attended RSG tutoring for 30 days or more during Fall 2019 (traditional format) and Spring 2020 (virtual format). The Year 1 RSG delivery format transition marked the start of the COVID pandemic in March, 2020. Summer 2019 attendance in Year 1 was zero days for all RSG youth.

Table 1a Total Regular RSG Attendees by School District	Year 1 (2019/20)
Blacklick Valley (2 nd -5 th)	11
Cambria Heights Elementary/Middle (K-7 th)	32 16 EL; 16 MS
Central Cambria Elementary (K-5 th)	18
Jackson Elementary (K-2 nd)	14
Central Cambria Middle School (6 th -8 th)	5
Glendale Elementary (K-2 nd)	18
Harmony Schools (K-6 th)	14 13 EL; 1 MS
Northern Cambria (K-7 th)	41 40 EL; 1 MS
Portage Schools (K-6 th)	41 36 EL; 5 MS
St. Michael's School (K-8 th)	26 22 EL; 4 MS

Table 1b. Breakdown of RSG Regular Attendance by Fall vs. Spring in Year 1 (2019/20).

Year 1 RSG Attendance 2019/2020	
Summer 2019	Total Students = 0/220 (0%)
Fall 2019 (<i>M</i> = 45.56 days; 11-95 days)	Total Students = 220/220 (100%)
Spring 2020 (<i>M</i> = 16.56 days; 13-20 days)	Total Students = 151/151 (100%)
(Mean = 62.12 days overall; 30-112 days)	
30-59 days: 114 (52%)	
60-89 days: 76 (34%)	
≥ 90 days: 30 (14%)	

Table 2. Most to Least Frequent C10 Respective Solutions Group Program Activities in Year 1 (2019/20).

Program Type	Skill(s) Targeted	Frequency Offered
Social Emotional Learning (SEL) ¹	ALL performance indicators	5 times per week X 36 weeks
Group Popcorn Reading ²	Reading	2 times per week X 36 weeks
STEM/STEAM	Math, Reading, Art, Science, Technology, Engineering	3 times per week X 36 weeks 2 times per week X 36 weeks
Creative Arts	Reading/Reading Comprehension	1 time per month X 36 weeks 1 time per week X 36 weeks
Nutrition	Math and Reading	1 time per week X 36 weeks
TOTAL RSG Activity Days = 169	Year 1 New Community Engagement College Student 1-day Visit to all After-school Tutoring Programs for Saint Francis University's Reaching Every Door (R.E.D) Day (see C7, Year 6 report Section G for summary, since it overlapped with C10, Year 1).	

Note 1. Social Emotional Learning was started in 2018/19 for the first time.

Note 2. Group/popcorn reading activities were used at all sites starting in 2016/17 for the first time.

E. Performance Measures 1-3 Results for 21st CCLC Grant

Table 3. 21 st CCLC Performance Measure 1 Results from Report Card Grades, PSSA, and Teacher Survey for Respective Solutions Group Year 1 (2019/20) ¹⁻⁵ .					
Performance Measure 1: Students regularly participating in the program will meet or exceed state and local academic achievement standards in reading and math.					
Performance Indicator GPRA 1.1 Target 48.5%	The percentage of <i>elementary</i> ¹ 21 st CCLC <i>regular</i> program participants ² whose <i>mathematics grades</i> improved from fall to spring. ³				
					Tutoring, homework help, study skills, STEAM labs
					2020 Yr. 1 Results⁴
					12/87 (14%) 5% math grade improvement
					19/87 (22%) 4% math grade improvement
Performance Indicator GPRA 1.2 Target 48.5%	The percentage of <i>middle school</i> ¹ 21 st CCLC <i>regular</i> program participants ² whose <i>mathematics grades</i> improved from fall to spring. ³				
					Tutoring, homework help, study skills, STEAM labs
					2020 Yr. 1 Results⁴
					2/18 (11%) 5% math grade improvement
					2/18 (11%) 4% math grade improvement

Performance Indicator GPRA 1.3 Target 48.5%	The percentage of <i>all</i> 21 st CCLC <i>regular</i> program participants ² whose <i>mathematics grades</i> improved from fall to spring. ³ Tutoring, homework help, study skills, STEAM labs				
					2020 Yr. 1 Results⁴
					14/105 (13%) 5% math grade improvement 21/105 (20%) 4% math grade improvement
Performance Indicator GPRA 1.4 Target 48.5%	The percentage of <i>elementary</i> ¹ 21 st CCLC <i>regular</i> program participants ² whose <i>reading/English grades</i> improved from fall to spring. ³ Read-aloud, small-group instruction, book clubs, Accelerated Reading time, Study Island supports, reading specialist supports, caregiver assistance				
					2020 Yr. 1 Results⁴
					21/88 (24%) 5% reading grade improvement 24/88 (27%) 4% reading grade Improvement

Performance Indicator GPRA 1.5 Target 48.5%	The percentage of <i>middle school</i> ¹ 21 st CCLC <i>regular</i> program participants ² whose <i>reading/English grades</i> improved from fall to spring. ³ Read-aloud, small-group instruction, book clubs, Accelerated Reading time, Study Island supports, reading specialist supports, caregiver assistance				
					2020 Yr. 1 Results⁴
					5/17 (29%) 5% reading grade improvement 7/17 (41%) 4% reading grade Improvement
Performance Indicator GPRA 1.6 Target 70%	The percentage of <i>all</i> 21 st CCLC <i>regular</i> program participants ² whose <i>reading/English grades</i> improved from fall to spring. ³ Read-aloud, small-group instruction, book clubs, Accelerated Reading time, Study Island supports, reading specialist supports, caregiver assistance				
					2020 Yr. 1 Results⁴
					26/105 (25%) 5% math grade improvement 31/105 (30%) 4% math grade improvement
Performance Indicator GPRA 1.7 Target 45%	The percentage of <i>elementary</i> 21 st CCLC <i>regular</i> program participants who improve from not proficient to proficient or above in <i>reading on state assessments</i> (PSSA/PASA). Above tutoring, YOGA, anxiety-reduction programs				
					2020 Yr. 1 Results
					Data not available

Performance Indicator GPRA 1.8 Target 25%	The percentage of <i>middle school 21st CCLC regular</i> program participants who improve from not proficient to proficient or above in <i>math on state assessment (PSSA)</i> . Above tutoring, YOGA, anxiety-reduction programs				
					2020 Yr. 1 Results⁴
					Data not available
The percentage of <i>regularly attending</i> students improving their <i>academic performance</i> as measured by the <i>Teacher Survey</i> ⁵ . All RSG Activities					
					2020 Yr. 1 Results⁴
					122/153 (80%) were rated by their teachers as improving academic perform.; 18% showed no change; 2% declined

Note 1. Elementary school participants included K-5th grade; middle school were 6th-8th grade.

Note 2. Regularly attending participants were defined as students who attended RSG program activities for 30 days or longer during each academic year.

Note 3. Improvement was defined as fall to spring semester half a letter grade increase of $\geq 5\%$ for 21st Century grant purposes. The actual grading scales of all schools in this report, though, better reflect half a letter grade increase as $\geq 4\%$, so both local and grant improvements were included in the full report.

Note 4. In Year 1 the COVID-19 pandemic makes it difficult to use Year 1 data from fall to spring semester as a useful baseline for future Cohort 10 grant year comparisons. In Year 1 one school district reported Quarter 1 vs. Quarter 4 grades, four school districts reported Quarter 1 vs. Quarter 3 grades, and five school districts reported either Quarter 1 vs. Pass/Fail or some version of year-long Pass/Fail, with 100% of students passing. Therefore, Year 1 results include fewer schools (5/10) than will occur in future years because we were unable to verify degree of report card grade improvements with the schools who opted to assign Pass/Fail grades.

Note 5. Student improvement on the Teacher Survey was indicated by any teacher rating of slight, moderate, or significant improvement (as opposed to slight/moderate/significant decline). This count did not include the 65/218 students (30%) for whom academic performance improvement was not needed to begin with.

Table 4. 21st CCLC Performance Measure 2 Results from Teacher Survey for Respective Solutions Group from Year 1 (2019/20).					
Performance Measure 2: Students regularly participating in the program will show improvement in the performance measures of school attendance, classroom performance, and/or reduced disciplinary referrals¹					
Performance Indicator GPRA 1.9 Target 90%	The percentage of <i>elementary 21st CCLC regular</i> program participants with teacher-reported improvement in <i>homework completion</i> and <i>class participation</i> (of students needing to improve).				
	Homework check-in, assignment check-out, caregiver communication on school day and homework, Positive Action, Life Skills Training, homework with direct support				
					Yr. 1 2020 Results
					108/132 (82%) rated by teachers as improving homework completion ; 22/132 (17%) no change; 2/132 (1%) declined
					119/140 (85%) rated by teachers as improving class participation ; 19/140 (14%) showed no change; 2/140 (1%) decline

<p>GPRA 1.10 Target 93%</p>	<p>The percentage of <i>middle school 21st CCLC regular</i> program participants with teacher-reported improvement in <i>homework completion</i> and <i>class participation</i> (of students needing to improve).</p> <p>Homework check-in, assignment check-out, caregiver communication on school day and homework, Positive Action, Life Skills Training, homework with direct support</p>				
					<p>Yr. 1 2020 Results</p>
					<p>16/19 (84%) rated by teachers as improving in homework completion; 3/19 (16%) no change; (0%) decline</p> <p>18/22 (82%) rated by teachers as improving in class participation; 4/22 (18%) no change; (0%) decline</p>

GPRA 1.11 Target 77%	The percentage of <i>all</i> 21 st CCLC <i>regular</i> program participants with teacher-reported improvement in <i>homework completion</i> and <i>class participation</i> (of students needing to improve). Homework check-in, assignment check-out, caregiver communication on school day and homework, Positive Action, Life Skills Training, homework with direct support				
					Yr. 1 2020 Results
					124/151 (82%) rated by teachers as improving in homework completion; 25/151 (17%) no change; 1% decline 137/162 (85%) rated by teachers as improving class participation; 23/162 (14%) no change; 1% decline
The percentage of <i>regularly</i> attending students improving their <i>class attentiveness</i> . All RSG Activities					
					Yr. 1 2020 Results
					89/157 (57%) rated by teachers as improving class attentiveness; 68/157 (43%) no change; 0% decline

Note 1. Regular participants attended RSG programs ≥ 30 days over each academic year. Elementary students included K-5th, while middle school students included 6th-8th grades. Student improvement on the Teacher Survey was indicated by any teacher rating of slight, moderate, or significant improvement (as opposed to slight/moderate/significant decline). This count excluded 63/214 (29%) who did not need to improve at homework completion, excluded 55/217 (25%) who did not need to improve at class participation, and excluded 63/220 (29%) who did not need to improve at class attentiveness.

Table 5. 21 st CCLC Performance Measure 3 Results from Teacher Survey and Grade Progression for Respective Solutions Group in Year 1 (2019/20). ¹					
Performance Measure 3: Participants in the 21st Century programs will demonstrate additional positive educational, social, and behavioral changes.					
Performance Indicator GPRA 1.12 Target 75%	The percentage of <i>elementary</i> 21 st CCLC <i>regularly</i> attending participants with teacher-reported improvements in <i>student behavior</i> (of students needing to improve). Positive Action Program, Life Skills Training				
					Yr. 1 2015 Results
					40/75 (53%) rated by teachers as improving in student behavior ; 35/75 (47%) no change; (0%) slight decline
GPRA 1.13 Target 75%	The percentage of <i>middle school</i> 21 st CCLC <i>regularly</i> attending participants with teacher-reported improvements in <i>student behavior</i> (of students needing to improve). Positive Action Program, Life Skills Training				
					Yr. 1 2020 Results
					9/18 (50%) rated by teachers as improving in student behavior ; 9/18 (50%) no change; (0%) decline

GPRA 1.14 Target 75%	The percentage of <i>all 21st CCLC regularly</i> attending participants with teacher-reported improvements in <i>student behavior</i> (of students needing to improve). Positive Action Program, Life Skills Training				
					Yr. 1 2020 Results
					49/93 (53%) rated by teachers as improving on student behavior ; 44/93 (47%) no change, (0%) decline
The percentage of <i>regularly</i> attending students improving their <i>motivation to learn</i> . All RSG Activities					
					Yr. 1 2020 Results
					88/123 (72%) were rated by their teachers as improving on motivation to learn ; 31/123 (25%) no change; 4/123 (3%) decline
The percentage of <i>regularly</i> attending students improving their <i>volunteering for extra credit or more responsibility</i> . All RSG Activities					
					Yr. 1 2020 Results
					118/165 (72%) were rated by their teachers as improving on volunteering; 45/165 (27%) no change; 2/165 (1%) decline

The percentage of *all 21st CCLC regularly attending students promoted¹* to the next grade or graduating at the end of the school year.

All RSG activities

					Yr. 1 2020 Results
					220/220 (100%)

Note 1. Whereas the first four PM 3 performance indicators were obtained from a Teacher Survey, the last indicator came from graduation/promotion or grade level enrollment records from 2020. Student improvement on the Teacher Survey was indicated by any teacher rating of slight, moderate, or significant improvement (as opposed to slight/moderate/significant decline). This count excluded the 127/220 (58%) who did not need to improve their behavior, the 97/220 (44%) who did not need to improve their motivation to learn, and the 54/219 (25%) who did not need to improve their volunteering.

Teacher Survey “Most Frequent” Responses to Individual Items

- Academic performance (Table 3)
 - Year 1: 65 “Did not need to improve” (30%); 59 “Slightly improved” (27%)
- Completing Homework to your Satisfaction (Table 4)
 - Year 1: 63 “Did not need to improve” (29%); 46 “Moderately improved” (22%)
- Participating in Class (Table 4)
 - Year 1: 55 “Did not need to improve” (25%); 48 “Moderately improved” (22%)
- Being Attentive in Class (Table 4)
 - Year 1: 68 “Did not change” (31%); 63 “Did not need to improve” (29%)
- Behaving in Class (Table 5)
 - Year 1: 127 “Did not need to improve” (58%); 44 “No change” (20%)
- Coming to School Motivated to Learn (Table 5)
 - Year 1: 97 “Did not need to improve” (44%); 38 “Moderately improved” (17%)
- Volunteering for Extra Credit or More Responsibility (Table 5)
 - Year 1: 54 “Did not need to improve” (25%); 46 “Moderately improved” (21%)

F. Additional Performance Measure 1 Results for ALL regular students: Fall vs. Spring Report Card Grades from Year 1 by School District

Table 6a. Average Year 1 Fall vs. Spring Report Card *Math* Grades for RSG Regular Participants from K-8th Grade by School District.^{1,2,3,4}

School District	Fall (Q1) Math Grade	Spring (Q4) Math Grade
Blacklick Valley Elementary YR 1 (n = 11) *4/11 ↓	YR 1 <i>Mdn</i> = 95%	YR 1 <i>Mdn</i> = 89%
School District	Fall (Q1) Math Grade	Spring (P/F) Math Grade
Central Cambria Elementary YR 1 (n = 9)	YR 1 <i>Mdn</i> = 92%	YR 1 = 100% Pass
Central Cambria Middle YR 1 (n = 5)	YR 1 <i>Mdn</i> = 84%	YR 1 = 100% Pass
Jackson Elementary (CCSD) YR 1 (n = 14)	YR 1 = 100% Pass	YR 1 = 100% Pass
Portage Elementary (YR 1 n = 36)	YR 1 <i>Mdn</i> = 85%	YR 1 = 100% Pass
Portage Middle (YR 1 n = 5)	YR 1 <i>Mdn</i> = 92%	YR 1 = 100% Pass
Portage All Grades (YR 1 n = 41)	YR 1 <i>Mdn</i> = 86%	YR 1 = 100% Pass
St. Michael's Elementary (YR 1 n = 22)	YR 1 <i>Mdn</i> = 93%	YR 1 = 100% Pass
St. Michael's Middle (YR 1 n = 4)	YR 1 <i>Mdn</i> = 88%	YR 1 = 100% Pass
St. Michael's All Grades (YR 1 n = 26)	YR 1 <i>Mdn</i> = 91%	YR 1 = 100% Pass
School District	Fall (Q1) Math Grade	Spring (Q3) Math Grade
Cambria Heights Elementary YR 1 (n = 15-16)	YR 1 <i>Mdn</i> = 90%	YR 1 <i>Mdn</i> = 93%
Cambria Heights Middle YR 1 (n = 16)	YR 1 <i>Mdn</i> = 87%	YR 1 <i>Mdn</i> = 86%
Cambria Heights All Grades YR 1 (n = 31-32)	YR 1 <i>Mdn</i> = 89%	YR 1 <i>Mdn</i> = 89%
Glendale Elementary ³ YR 1 (n = 14-15)	YR 1 <i>Mdn</i> = 88%	YR 1 <i>Mdn</i> = 85%
Harmony Elementary YR 1 (n = 10)	YR 1 <i>Mdn</i> = 93%	YR 1 <i>Mdn</i> = 91%
Harmony Middle YR 1 (n = 1)	YR 1 <i>Mdn</i> = 94%	YR 1 <i>Mdn</i> = 87%
Harmony All Grades ³ YR 1 (n = 11)	YR 1 <i>Mdn</i> = 93%	YR 1 <i>Mdn</i> = 90%
N. Cambria Elementary YR 1 (n = 37)	YR 1 <i>Mdn</i> = 94%	YR 1 <i>Mdn</i> = 90%
N. Cambria Middle YR 1 (n = 1)	YR 1 <i>Mdn</i> = 81%	YR 1 <i>Mdn</i> = 82%
N. Cambria All Grades YR 1 (n = 38)	YR 1 <i>Mdn</i> = 94%	YR 1 <i>Mdn</i> = 90%

Note 1. Averages are presented as medians ($Mdn = 50^{\text{th}}$ percentile grade), which are most accurate here given that the fall and spring grade distributions showed mostly A and B grades (i.e., were notably skewed). All percentages are rounded to the nearest whole number.

Note 2. Typically, fall vs. spring report card grades within a grant year are reported. In Year 1 (2019/20) the COVID pandemic disrupted normal school and after-school programming operations around March 2020. This resulted in some Cohort 10 school districts comparing Quarter 1 vs. Quarter 4 grades (yellow rows), some comparing Quarter 1 vs. Quarter 3 grades (peach rows), and some comparing Quarter 1/other categories for fall vs. Pass/Fail grades (blue rows) for spring semester. Table 6a has been color-coded to reflect these three different ways of processing spring semester grades in Year 1.

Note 3. Glendale ($n=3$) and Harmony SD ($n = 3$) each included a few youth, who were graded using a non-percentage grade system in Year 1, so they were excluded from analysis since the majority of youth in these school districts reflected peach-colored school grading.

Note 4. See Table 7a for overall math median fall vs. spring report card grade comparisons.

Table 6b. Three Pandemic Year 1 Ways that Cohort 10 School Districts Handled Spring Semester Math Report Card Grades. ^{1,2}

3 Ways Spring Grades Handled in Year 6	Median Math Report Card Grades in Quarter 1 (n)	Overall School District Pattern of Grade Changes from Fall to Spring
Yellow (Q1 vs. Q4 grades) 4/11 (36%) $\geq 4\%$ \uparrow 6 th -8 th grade: 0/11 (0%) 2 nd -5 th grade: 4/11 (36%)	$Mdn = 95.00\%^{***1}$; $SE_k = .66$ ($N = 11$)	Spring grades decreased by 6% on average.
Blue (Q1/Other vs. 100% Pass)	$Mdn = 89.00\%$; $SE_k = .27$ ($N = 81$)	Lowest Q1 math grades; 100% pass rate spring
Peach (Q1 vs. Q3 grades) 17/94 (18%) $\geq 4\%$ \uparrow 6 th -8 th grade: 2/18 (11%) K-5 th grade: 15/76 (20%)	$Mdn = 91.00\%$; $SE_k = .25$ ($N = 95$)	Majority of spring grades decreased.

Note 1: *** A Kruskal-Wallis H test verified a near-significant trend that the one yellow school district, which reported Q1 vs. Q4 math grades, had the highest Quarter 1 average report card grades out of all three ways pandemic-related math grades were handled in Year 1, $H(2) = 5.78$, $p = .056$. Blue school districts for C10 included a combination of RSG youth within the same few school districts given Q1 percentages vs. Q1 non-percentages/other categories, followed by Pass/Fail grades in spring of Year 1.

Note 2: 36% (4/11) yellow school youth started out in fall semester with math grades less than 92%, showing need for report card grade improvement. 64% (52/81) of blue school youth and 53% (50/95) of peach youth did as well.

Tables 6a-6b mainly show that across most school districts average math report card grades declined from fall to spring during COVID-19 Year 1. Table 6b also suggests that of 10 school districts, the blue-coded schools that used some form of pass/fail or other non-percentage grading system in Year 1 started out in Quarter 1 with the lowest median math grades and had the highest percentage of RSG youth who started out in fall semester with math grades falling below A-level (64%).

Table 6c. Average Year 1 Fall vs. Spring Report Card *Reading/Language Arts* Grades for RSG Regular Participants from K-8th Grade by School District.^{1,2,3,4}

School District	Fall (Q1) Reading Grade	Spring (Q4) Reading Grade
Blacklick Valley Elementary YR 1 (n = 11)	YR 1 <i>Mdn</i> = 90%	YR 1 <i>Mdn</i> = 90%
School District	Fall (Q1) Reading Grade	Spring (P/F) Reading Grade
Central Cambria Elementary YR 1 (n = 9)	YR 1 <i>Mdn</i> = 93%	YR 1 = 100% Pass
Central Cambria Middle YR 1 (n = 5)	YR 1 <i>Mdn</i> = 87%	YR 1 = 100% Pass
Jackson Elementary (CCSD) YR 1 (n = 14)	YR 1 = 100% Pass	YR 1 = 100% Pass
Portage Elementary (YR 1 n = 36)	YR 1 <i>Mdn</i> = 88%	YR 1 = 100% Pass
Portage Middle (YR 1 n = 5)	YR 1 <i>Mdn</i> = 92%	YR 1 = 100% Pass
Portage All Grades (YR 1 n = 41)	YR 1 <i>Mdn</i> = 88%	YR 1 = 100% Pass
St. Michael's Elementary (YR 1 n = 22)	YR 1 <i>Mdn</i> = 95%	YR 1 = 100% Pass
St. Michael's Middle (YR 1 n = 4)	YR 1 <i>Mdn</i> = 83%	YR 1 = 100% Pass
St. Michael's All Grades (YR 1 n = 26)	YR 1 <i>Mdn</i> = 94%	YR 1 = 100% Pass
School District	Fall (Q1) Reading Grade	Spring (Q3) Reading Grade
Cambria Heights Elementary YR 1 (n = 15-16)	YR 1 <i>Mdn</i> = 92%	YR 1 <i>Mdn</i> = 92%
Cambria Heights Middle YR 1 (n = 16)	YR 1 <i>Mdn</i> = 86%	YR 1 <i>Mdn</i> = 91%
Cambria Heights All Grades YR 1 (n = 31-32)	YR 1 <i>Mdn</i> = 89%	YR 1 <i>Mdn</i> = 91%
Glendale Elementary ³ YR 1 (n = 15)	YR 1 <i>Mdn</i> = 90%	YR 1 <i>Mdn</i> = 92%
Harmony Elementary YR 1 (n = 10)	YR 1 <i>Mdn</i> = 92%	YR 1 <i>Mdn</i> = 89%
Harmony Middle YR 1 (n = 1)	YR 1 <i>Mdn</i> = 92%	YR 1 <i>Mdn</i> = 93%
Harmony All Grades ³ YR 1 (n = 11)	YR 1 <i>Mdn</i> = 92%	YR 1 <i>Mdn</i> = 89%
N. Cambria Elementary YR 1 (n = 37)	YR 1 <i>Mdn</i> = 91%	YR 1 <i>Mdn</i> = 91%
N. Cambria Middle YR 1 (n = 1)	YR 1 <i>Mdn</i> = 91%	YR 1 No data
N. Cambria All Grades YR 1 (n = 38)	YR 1 <i>Mdn</i> = 91%	YR 1 <i>Mdn</i> = 91%

Note 1. Averages are presented as medians (*Mdn* = 50th percentile grade), which are most accurate here given that the fall grade distributions showed mostly A and B grades (i.e., were notably skewed). Spring reading grades were normally distributed, supporting some COVID backslide. All percentages are rounded to the nearest whole number.

Note 2. Typically, fall vs. spring report card grades within a grant year are reported. In Year 1 (2019/20) the COVID pandemic disrupted normal school and after-school programming operations around March 2020. This resulted in some Cohort 10 school districts comparing Quarter 1 vs. Quarter 4 grades (yellow rows), some comparing Quarter 1 vs. Quarter 3 grades (peach rows), and some comparing Quarter 1/other categories for fall vs. Pass/Fail grades (blue rows) for spring semester. Table 6c has been color-coded to reflect these three different ways of processing spring semester grades in Year 1.

Note 3. Glendale (n=3) and Harmony SD (n = 3) each included a few youth, who were graded using a non-percentage grade system in Year 1, so they were excluded from analysis since the majority of youth in these school districts reflected peach-colored school grading.

Note 4. See Table 7a for overall reading median fall vs. spring report card grade comparisons.

Table 6d. Three Pandemic Year 1 Ways that Cohort 10 School Districts Handled Spring Semester Reading Report Card Grades. ^{1,2}

3 Ways Spring Grades Handled in Year 6	Median Reading Grades in Quarter 1 (n)	Overall School District Pattern of Grade Changes from Fall to Spring
Yellow (Q1 vs. Q4 grades) 5/11 (45%) \geq 4% \uparrow 6 th -8 th grade: 0 (0%) 2 nd -5 th grade: 5/11 (45%)	<i>Mdn</i> = 90.00%; <i>SE_k</i> = .66 (<i>N</i> = 11)	Spring grades stayed same on average as fall grades.
Blue (Q1 vs. 100% Pass)	<i>Mdn</i> = 90.00%; <i>SE_k</i> = .27 (<i>N</i> = 81)	100% Pass rate spring
Peach (Q1 vs. Q3 grades) 26/94 (28%) \geq 4% \uparrow 6 th -8 th grade: 7/17 (41%) K-5 th grade: 19/77 (25%)	<i>Mdn</i> = 90.50%; <i>SE_k</i> = .25 (<i>N</i> = 96)	Spring grades varied relative to fall grades.

Note 1: A Kruskal-Wallis H test showed no significant difference in average Quarter 1 reading report card grades between the three separate ways Cohort 10 schools handled pandemic-related grades spring semester of Year 1, $H(2) = .68, p = .712$.

Note 2: 73% (8/11) yellow school youth started out in fall semester with reading grades less than 92%, showing need for report card grade improvement. 94% (76/81) of blue school youth and 61% (59/96) of peach youth did as well.

Tables 6c-6d verify that the same 10 RSG school districts varied much more in whether their reading report card grades improved, stayed the same, or declined within COVID-19 Year 1. Table 6c showed no significant average difference in fall semester reading grades between any of the three different ways pandemic-related spring grades were handled. However, 94% of blue school RSG youth (i.e., those receiving pass/fail spring grades only) started out in fall semester with reading grades below A-level. Schools that chose to rely on pass/fail or other non-percentage spring semester grades generally may have been driven by having the highest percentage of RSG youth with the lowest fall grades (below A grades) in both math (64%) and in reading (94%).

Student Grades Re-calculated after Removal of Fall students earning A-grades 2019/2020.

Tables 6e-6f repeat Performance Measure 1 report card grade data shown in Table 3 above in the middle column of each table to facilitate comparison to results in the right column when Fall 2019 A-grades were removed. All students earning a 92% (A) or higher for math during Fall 2019 (see Table 6e) or all who earned a 92% (A) or higher for reading during Fall 2019 (see Table 6f) were removed before math/reading re-analyses. Any student already earning an A grade in the fall semester had too little room for improvement.

Table 6e. Percentage of RSG participants from Year 1 (2019/20) who improved in math by half a letter grade¹ before vs. after initial A-student removal.

Performance Indicator	RSG Regular Participants(30+) 5% vs. 4% Fall to Spring Improvement	RSG Regular but Fall A-Grades Out
The percentage of <i>elementary</i> 21 st CCLC <i>regular</i> program Year 1 participants whose <i>mathematics grades</i> improved from fall to spring (GPRA 1.1 Target = 48.5%)	14% showed 5% or more math improvement (12/87) 22% showed a 4% or more math improvement (19/87)	25% showed 5% or more math improvement (10/40) 35% showed 4% or more math improvement (14/40)
The percentage of <i>middle school</i> 21 st CCLC <i>regular</i> program Year 1 participants whose <i>mathematics grades</i> improved from fall to spring (GPRA 1.2 Target = 48.5%)	11% showed 5% or more math improvement (2/18) 11% showed a 4% or more math improvement (2/18)	15% showed 5% or more math improvement (2/13) 15% showed 4% or more math improvement (2/13)
The percentage of <i>all</i> 21 st CCLC <i>regular</i> program participants whose Year 1 <i>mathematics grades</i> improved from fall to spring (GPRA 1.3 Target = 48.5%)	13% showed 5% or more reading improvement (14/105) 20% showed a 4% or more reading improvement (21/105)	23% showed 5% or more math improvement (12/53) 30% showed 4% or more math improvement (16/53)

Note 1. In typical, non-pandemic years grade improvement was calculated by taking spring minus fall semester grades. Also, removal of fall A-grade youth typically means removal of RSG youth who earned $\geq 92\%$ during Quarter 1 of fall, showing little possible room for improvement. For Year 1 (2019/20), the pandemic in March 2020 caused three different ways for reporting spring semester grades (see Tables 6b, 6d above). Given that one of the three pandemic grading processes involved assigning pass/fail grades or some other non-percentage grade during one or both semesters of 2019/20, this made estimating 4-5% improvement within Year 1 impossible for blue-coded schools across all RSG youth and for those with fall A-grades removed. Therefore, blue schools were necessarily excluded from the Year 1 removal of fall A-grade data calculations, which introduces extra bias since about half of RSG youth needing to improve in math report card grades ($52/106 = 49\%$) attended blue-coded schools with pass/fail grading systems.

Table 6f. Percentage of RSG participants in Year 1 (2019/20) who improved in reading by half a letter grade¹ before vs. after initial A-student removal.

Performance Indicator	RSG Regular Participants(30+) 5% vs. 4% Fall to Spring Improvement	RSG Regular but Fall A-Grades Out
The percentage of <i>elementary</i> 21 st CCLC <i>regular</i> program Year 1 participants whose <i>reading grades</i> improved from fall to spring (GPRA 1.4 Target = 48.5%)	24% showed 5% or more reading improvement (21/88) 27% showed a 4% or more reading improvement (24/88)	36% showed 5% or more reading improvement (18/50) 42% showed 4% or more reading improvement (21/50)
The percentage of <i>middle</i> school 21 st CCLC <i>regular</i> program Year 1 participants whose <i>reading grades</i> improved from fall to spring (GPRA 1.5 Target = 48.5%)	29% showed 5% or more reading improvement (5/17) 41% showed a 4% or more reading improvement (7/17)	36% showed 5% or more reading improvement (5/14) 50% showed 4% or more reading improvement (7/14)
The percentage of <i>all</i> 21 st CCLC <i>regular</i> program participants whose Year 1 <i>reading grades</i> improved from fall to spring (GPRA 1.6 Target = 48.5%)	25% showed 5% or more reading improvement (26/105) 30% showed a 4% or more reading improvement (31/105)	36% showed 5% or more reading improvement (23/64) 44% showed 4% or more reading improvement (28/64)

Note 1. In typical, non-pandemic years grade improvement was calculated by taking spring minus fall semester grades. Also, removal of fall A-grade youth typically means removal of RSG youth who earned $\geq 92\%$ during Quarter 1 of fall, showing little possible room for improvement. For Year 1 (2019/20), the pandemic in March 2020 caused three different ways for reporting spring semester grades (see Tables 6b, 6d above). Given that one of the three pandemic grading processes involved assigning pass/fail grades or some other non-percentage grade during one or both semesters of 2019/20, this made estimating 4-5% improvement within Year 1 impossible for blue-coded schools across all RSG youth and for those with fall A-grades removed. Therefore, blue schools were necessarily excluded from the Year 1 removal of fall A-grade data calculations, which introduces extra bias since a bit over half of RSG youth needing to improve in reading report card grades ($76/143 = 53\%$) attended blue-coded schools with pass/fail grading systems.

Among the top 1/3 of Year 1 RSG youth in terms of fall math report card grades (i.e., fall grades of 92% or higher), 5/48 (10%) improved by 4% or more and 2/48 (4%) improved by 5% or more. All improved youth were in elementary grades (4 of 5 were 2nd graders; 1 of 5 in 3rd grade), but they came from a mixture of peach and yellow schools. Total after school RSG attendance was 52-107 days in Year 1 for the five RSG youth who improved in math grades. Adjusting for youth already at ceiling (97-100% fall math grades) and at pass/fail school districts, 5/30 (17%) improved by 4% or more and 2/30 (7%) improved by 5% or more. Kuhfeld et al. (2020) estimated that nation-wide 16% of 3rd graders would improve on their own over summer and 15% of 4th graders would improve on their own. There was too much inconsistency in their 3rd-7th grade summer improvement estimates, making it impossible to extrapolate what RSG 2nd graders should look like. However, 5/30 (17%) top 1/3 of RSG youth improving by 4% or more is definitely consistent with the 15-16% for 3rd-4th graders estimated by Kuhfeld et al. to show

summer gains. Also, if we look at all RSG 3rd graders from peach/yellow schools Year 1, 1/7 (14%) showed math grade improvement by 4%.

Among the top 1/3 of Year 1 RSG youth in reading, only 3/38 (8%) improved by either ≥ 4 -5% in Year 1. All 3 who improved were peach school youth and elementary grades (all 3 were 2nd graders from two school districts who improved by 5%). All 3 attended RSG after school tutoring 34-75 days in Year 1, which was a much smaller range of attendance than shown for math improving RSG youth. One of these three also improved in math by 1%, one improved by 7% in math, and one decreased by 3% in math. After adjusting for those youth who were already at ceiling in fall of Year 1 (97%-100% reading grades), along with those at pass/fail grading school districts, 10% (3/30) of the top 1/3 Year 1 RSG youth improved in reading. This can be compared to Kuhfeld et al. (2020), who projected using 5 million 3rd-8th graders' data nationwide that they would improve to a much greater degree, even without any exposure to virtual learning in Year 1. Kuhfeld et al. estimated that 3rd graders were predicted to go up 35% in reading and 4th graders up by 37% in reading, based on the amount they tend to go up over summer when youth are out of school on their own. Kuhfeld et al.'s percentage of 3rd-8th grade students who showed gains during summer for reading steadily increased as grade level went up, jumping by 1-4% between each grade. Extrapolating to Year 1 RSG 2nd graders, then, 31-34% that I am estimating for missing nation-wide sample data is still MUCH higher than the 10% shown by even the Top 1/3 of RSG youth in pandemic Year 1. The top third of 3rd-8th graders especially were predicted by Kuhfeld et al. 2020 to make reading gains during 2019/20 pandemic year, but this was not supported to the degree one would predict by RSG youth (only 10% of the top 1/3 of RSG readers improved rather than the 31-34% one might estimate). None (0%) of 3rd-8th graders who were RSG youth improved in reading when looking at only the Top 1/3 RSG youth!

Overall Performance Measure 1 Results: Year 1 Report Card Grades

Table 7a. Average Report Card Grades for all RSG Regular Participants (30+) from K-8th Grade for Year 1 (2019/20).¹⁻³

Subject Area Median¹ Report Card Grade	FALL	SPRING
Math Grade (N = 187 FA; 106 SP)		
YR 1 Mdn All Q1	90%	89%***
(N = 106 FA + SP)		
YR 1 Mdn % All Year Only	91%	89%***
Reading Grade (N = 188 FA; 105 SP)		
YR 1 Mdn All Q1	90%	91%*
(N = 107 FA; 105 SP)		
YR 1 Mdn % All Year Only	90%	91%*

Note 1. Medians are best used as averages rather than means here because it is more accurate to report the 50th percentile when grade distributions primarily show high grades that are skewed. All Year 1 standard error of skewness values, used as the measure of grade spread, were .18-.24 for math and reading when all Q1 grades were left in. All Year 1 standard error of skewness values, after removal of RSG youth with spring passing grades provided only, were .23-.24 for math and reading.

Note 2. N reflects the sample size and the smallest number of students providing data for any a given subject area across both fall and spring is reported above. For Year 1 only the second set of math and reading medians reported were more equivalent comparisons in terms of sample size because any RSG youth for whom only passing spring grades were provided were removed from the Quarter 1 calculations as well.

Note 3. Asterisks denote only where spring grades were significantly higher than fall grades within the same year and subject area. TR means a near-significant difference, * $p \leq .05$ or 95% confidence level, ** $p \leq .01$ or 99% confidence level, *** $p \leq .001$ or 99.99% confidence level. Wilcoxon signed ranks tests only were used for Year 1 data to compare fall vs. spring grades.

Table 7a shows we can be 99% confident that math grades on average significantly declined by 2% in Year 1 overall once blue-coded pass/fail schools were removed from fall grades. However, we can be 95% confident that reading grades on average improved by 1% in Year 1. If we examine the percentage of RSG youth who showed ANY report card grade improvement (by $\geq 1\%$) or ANY grade declines (by $\leq -1\%$), there is a clear reversal in pattern for math and reading. Whereas 60/101 (59%) of K-8th graders declined from fall to spring in their math report card grades, 7/101 (7%) showed no change and only 34/101 (34%) improved their math grades by 1% or more. On the other hand, 32/105 (31%) of K-8th graders declined from fall to spring in their reading report card grades, 13/105 (12%) showed no change and 60/105 (57%) improved their reading grades by 1% or more. Overall across all grade levels, then, the majority of RSG youth in Year 1 showed math report card grade declines (59%) during the pandemic year 2019/2020 but the majority showed reading grade improvements (57%) that same year. This only partially supports Kuhfeld et al. (2020) projections, though; while reading definitely yielded more positive improvements than math despite the pandemic as projected, it was not the top 1/3 of RSG youth who were most responsible for this pattern as Kuhfeld et al. predicted (see Table 7b below).

Table 7b. Observed frequencies of Top 1/3 vs. Bottom 2/3 of RSG youth who showed ANY¹ change over time in math and reading report card grades during pandemic Year 1 (2019/20).

	Top 1/3 of Yr. 1 RSG Youth	Bottom 2/3 of Yr. 1 RSG Youth	Total Yr. 1 RSG Youth
Math Grade			
Decline $\leq -1\%$	34/48 (71%)	26/53 (49%)	60/101 (59%)
No Change	5/48 (10%)	2/53 (4%)	7/101 (7%)
Improve $\geq +1\%$	9/48 (19%)	25/53 (47%)	34/101 (34%)
Reading Grade			
Decline $\leq -1\%$	18/41 (44%)	14/64 (22%)	32/105 (31%)
No Change	7/41 (17%)	6/64 (9%)	13/105 (12%)
Improve $\geq +1\%$	16/41 (39%)	44/64 (69%)	60/105 (57%)

Note 1. Unlike Tables 6e-6f, where a half letter grade of ≥ 4 -5% improvement was defined as report card grade improvement, this table highlights both improvements and declines in grades within Year 1 by 1% or more in either direction. This allows a more sensitive measure of Year 1 change in report card grades.

RSG Community Engagement with Saint Francis University (SFU) in Fall 2019

Forty-one of 47 SFU students enrolled in PSYC 201 Research Methods and Statistics I with Dr. Marnie Moist volunteered for a one-day RSG youth Career Day discussion visit to 1 of 11 central PA schools where after-school tutoring took place in Fall 2019 (see complete list of schools and SFU students who visited each on the following page). In order to prepare for this service day, Dr. Moist and these 41 SFU students each completed all four required RSG school clearances, enabling them to ethically interact with 118 local PA youth. Since there were 11 schools, 3-4 SFU students visited each area school district. The other 6 SFU students, who were not interested in obtaining their school clearances, worked behind the scenes to complete data entry collected by the 41 volunteers who interacted with RSG youth on SFU's Reaching Every Door (R.E.D.) Day of Service (Oct. 1, 2019).

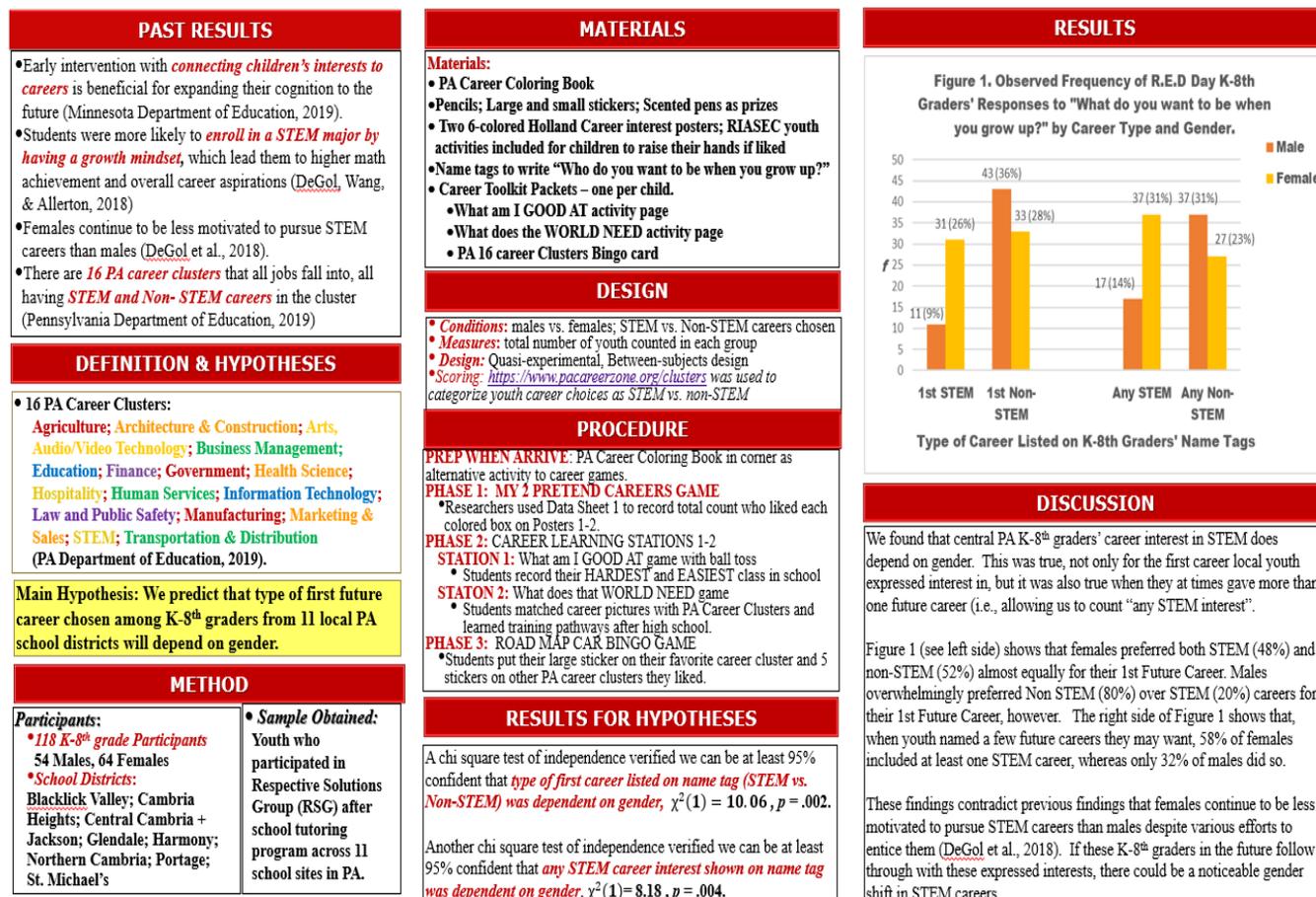
One of the 41 SFU students who participated in R.E.D. Day, Elana Benninghoff, co-authored a research poster with Dr. Moist which was presented at the November, 2019 SFU Annual Research Day on the SFU campus. This poster, which outlines all Career Day games played with RSG youth on R.E.D Day, 2019, is included below. The most interesting results from Poster 1 below showed that females may becoming more interested in STEM careers than has occurred historically. Elana Benninghoff, the PSYC 201 class Teaching Assistant, received a small PDE grant stipend to support her research and her efforts to coordinate the other 40 PSYC 201 SFU students' efforts to prepare and administer community engagement activities on R.E.D. Day. Career Day RSG youth materials and procedures are also included at the end.



R.E.D Day Career Interest in PA K-8th Graders: Does Interest in STEM

Careers Depend on Gender?

Elana Benninghoff and Dr. Marnie Moist
Loretto, PA



List of PSYC 201 SFU Students Visiting RSG Schools on R.E.D Day

Tuesday, October 1, 2019 from 4:00-5:00 p.m.

Request to all RSG tutoring supervisors at school sites: Please watch for these students to arrive at front door of school so someone is there to let them into the locked building. Thank you!

Note: All PSYC 201 students have been given Sue Sheehan's cell phone number should they get lost or locked out of the school. The names in italics below are students who helped plan activities but will NOT be visiting the school site; instead they have chosen to help score the career data collected as part of the RED day PA Career learning activities.

Blacklick Valley School District.

Emily Olszewski, Elizabeth Weidner, Adriana Barone, and *Jillian Myerly (No visit)*

Cambria Elementary School District

Hannah Jones, Taylor Weaver, Jessica Kerecman, Nicole Neborg, and *Kiana Robinson (No visit)*

Jackson Elementary School District

Dr. Marnie Moist, Cheyenne Gotwald, Mariana Jaleca, Emilee Barnett, and *Christian Griego (No visit)*

Central Cambria Middle School District

Brittany Ribblett, Michelle Cybulski, Ashley Shaw, Mikayla Beck, *Aaron Appleton (No visit)*

Cambria Heights Elementary School District.

Christina Capraun, Cierra Eby, Brittney Edgar, Alejandra Roa

Cambria Heights Middle School District

Kayla Farrell, Kaitlyn Long, Joanna Sanders, Rachelle Armanini

Glendale Elementary/Middle School District

Kim Snippert, Anthony Lovat, Metzi Enriquez, Lauren Hutt, *Meghan Alberelli (No visit)*

Harmony Elementary/Middle School District

Kathryn Seigle, Kara Mooney, Giannalese Pepoli

Northern Cambria Elementary/Middle School District

Rachel Litzinger, John McGowan, Samatha Olton, Jesse Switzer, *Kai Williams (No visit)*

Portage Area School District

Elana Benninghoff, Lauren Montecalvo, Mackenzie Case, Baylee Frazier

St. Michael School

Katie Pribish, Rose Stock, Sydney Missouri, Maria (Hang) Nguyen

Note. Only 3/41 SFU students who visited RSG schools for CAREER Day were males, which likely impacted Research Poster 1 gender differences in STEM vs. non-STEM careers chosen.

RED DAY FALL 2019

Materials

Phase I – Introduction + Ice-breaker

Name tags - 220 sticky tags youth + 45 tags for SFU students (3 different colors), pre-sorted by school and pre-numbered MONDAY

- School abbreviation/Number
- First name only
- Grade level

Circle with 6 colors + Brad metal clips + paper clips for 11 spinners

Construction paper – 220 sheets, pre-sorted by school with 4-6 colors per school for kids to stand on during circle game MONDAY

1-2 Stopwatches or cell phone timers per school (NO OTHER CELL PHONE USE!!!)

33 Data Sheets – THREE sheets per school for SFU students to record responses from each child in middle as spoken out loud; one sheet Phase 1 icebreaker, one sheet Station 1, one sheet Station 2.

Data Sheet 1 Ice breaker

- Column 1 = School/Number
- Column 2 = Grade level
- Column 3 = Gender
- Column 4 = What do you like to do at home?
- Column 5 = What do you like to do at school?

Data Sheet 2 Station 1

Column 1 = School/Number

Column 2 = What do you want to be when you grow up? Get 1 answer from EACH CHILD throw ball to next child.

Column 3 = What is your hardest class in school? Get 1 answer from EACH CHILD.

- How would you use reading or math in this job? Don't throw ball for this question

Column 4 = What are you good at doing? Get 1 answer from EACH CHILD.

- If child struggles to answer this, ask what other people have said they are good at doing.

Column 5 =

Goal Statement 1: In the after school program, when I work on my hardest homework, I would really like to

GET ONE GOAL 1 ANSWER FROM EACH CHILD!!!

Data Sheet 3 Station 2

Column 1 = School/Number

Column 2 = Station done 1st? Enter 1 or 2.

Column 3 = What do you want to be when you grow up?

Column 4 = Where would you go in, or after, high school to get more training for this job? (3rd-8th grade only)

- If K-2nd graders just ask what other kinds of jobs they might do that would go with what good at and what like.

Materials

Phase 2 – Two Fun Career Stations

220 colorful data sheets with questions for kids to write on/get help writing in Stations 1-2

Station 1 – 11 Yarn/Foam Ball to throw when say What do I want to be when I grow up?

[Toolkit title page 1 with colorful picture toolkit – see Roa et al.; Appendix 4 Barone et al. p. 2 OR last page for summary of stations + Phase 3 re-organized to match steps of 1-hour activity – 1. What like at home and school (circle game with diversity) 2A. What subjects in school will help with job – math, reading, those linked to own strengths Station 1 AND 2B. What training during/after HS will help me get there from Mix N Match Station 2. 3. Society needs and 16 clusters.]

[Station 1 – Toolkit Colorful data collection sheets for questions – see App. 4 Litzinger et al.] but ask for data collection out loud so leader can record in data sheets. Add pictures of hardest subjects to circle fast in toolkit – Barone et al.; but again say it out loud for data collector to write on own response sheet]

Station 2 – Cut out pictures for 3 columns Mix N Match – 3 sets per school; 3 sets Large column labels per school – one set per age group.

Station 2 – Toolkit Handout on Career Training Programs – what they are (formal + informal), clip art, sample jobs [Merge Farrell et al. p. 33-34; Benninghoff et al. p. 16; Litzinger et al App. 3]

[Station 2 – Appendix 2 Glendale + p. 18 Portage + CCMS end for Mix N Match pictures and ideas]

Materials

Phase 3 – Large Group Discussion

11 Flipchart sheets with road map of main career paths (see Elana's group example); 1 per school

[p. 17 Portage for what map should look like]

22 markers (2 per school) to encourage growth mindset by drawing bridges between paths, barriers/cones = hardest school subjects to get around, etc.

11 Bags to draw out 1 job title per child out of 20 placed into each bag – 4 college STEAM, 4 college non-STEAM, 3 Tech school STEAM, 3 Tech school non-STEAM, 2 apprentice, 1 faith-based, 1 military, 2 invented ones – what would you bring to work?; 220 job title slips of paper

220 Bingo cards – each card shaped like a race car with a race car # used for child number with 16 PA Career Cluster images (4X4) OR 440 so extra one in take-home Career Toolkit? [Neborg et al. bingo card with p. 23; Litzinger et al. App. 2 has color ones]

1100 Stickers – 5 smiley faces or other small ones per child to put onto bingo card for all most liked Clusters; 220 star/larger stickers for final 16 cluster Who I want to be when I grow up to keep. MONDAY pre-sort for 11 schools.

220 Take home handouts (Have minorities and both gender career images) represented in all hand outs

- Appendix 2 Litzinger et al. – have Bingo Card p. 1 stapled to 16 clusters p. 2 so final sticker can go on p. 2, torn off, taken home with “What I want to be when I grow up”. Maybe p. 3 backside gives sample jobs in 16 clusters on 1 page like Roa et al. but in color OR Siegle et al. condensed to 1 page max OR end of Appleton et al. ??
- ONLINE resource only to give tutors to use later/make copies if want to: Middle school only – RIASEC test and info. Appleton et al.; All grades Appendix 7 of Barone et al.; Web link resources – see Barone et al. Appendix 5 + Appleton et al.

220 Grab Bag Prizes for the End - Party pack of Toys? Smarties to remind how smart they are? MONDAY

Procedure

Ice Breaker PHASE 1 TIME (15-20 min.)

1. SFU students introduce selves – full names, all go to SFU, and their Phase 1 roles (circle leader/timer + name tag maker/write down what middle says to learn more about each youth), but NO MAJORS YET!!!
2. Script for Q7 – Invite to choose fun career activities OR coloring/game book

[INSERT BEST APA ETHICS SCRIPT HERE]

3. Circle game as ice-breaker and to collect data.

Circle activity Circle leader reads game instruction script out loud, while timer sets up construction paper in alternating colors to make circle; use 1 less colored paper to stand on than there are youth + 1 circle leader present (only 1 SFU student actually plays game).

[INSERT BEST GAME INSTRUCTION SCRIPT HERE – see Harmony and a few others; maybe call it Huge Wind Blows and ask kids who don't run to blow air out while rest run.]

Data collector/Timer writes first name and grade on pre-numbered tag BEFORE the student goes in the middle of the circle + gives it to child to put it on his/her shirt. Timer also responsible for keeping game moving at good pace. Data collector F2F asks what like at home vs. school and writes down BEFORE kid goes into the middle.

One data collector to write down what middle kid in circle says out loud to Q1 - what he/she likes at home and Q2 - likes at school next to their number and grade level.

Circle leader guides when children should run to new color sheet if similar likes to middle child or if would enjoy job named with color after leader asks middle child to name ONE color from the visible color wheel held up (only after what liked at home + school spoken out loud).

- If you like color RED OR ANYONE – name a job where you work with your hands? Raise hand if you would enjoy doing that? Run.
If you like color PURPLE OR ANYONE – name a job where you make/create things? Raise hand if you would enjoy that? Run.

If you like color BLUE OR ANYONE – name a job where you work indoors? Raise hand if enjoy that? Run.

If you like color GREEN OR ANYONE – name a job where you work outdoors? Raise hand if enjoy? Run.

If you like color YELLOW OR ANYONE – name a job where you are alone a lot? Raise hand if enjoy? Run.

If you like color ORANGE OR ANYONE – name a job where you are around lots of people? Raise hand if enjoy? Run.

- If too few/too many raise hand, circle leader instead picks one color standing on to run
- If too few ideas generated about what kids like, ask “When you are at school would you rather _____ or _____?” then selects hands raised for only 1 choice to run.
- If repeat child ends up in middle, ask that child to pick someone who hasn’t yet been in middle to trade places; will ensure we collect data from as many kids as possible.

*****Important: Do game for 10 minutes maximum; any child who never ended up in middle should be told to go to Data Collector and answer “What do you like to do at home + What do you like to do at school”? in last 5-10 minutes. All other kids should be asked to think about what they said they liked at home or school – “What kind of job would pay you money to do what you like?”. This doesn’t need to be written down; instead it will get them ready for Phase 2.**

Data collector hands over data table sheet to Station 1 leader to keep at end of Phase 1.

TWO Stations PHASE 2 TIME: 10 minutes

Color 1 name tag kids start at Station 1; Color 2 tag kids start at Station 2

Station 1: What am I good at?

[Best Station 1 script to lead into it – see CCMS Appleton et al.]

Q1. What are you good at doing?

- If child struggles to answer this, ask what other people have said they are good at doing.

Q2. What do you want to be when you grow up?

Q3. How would you use reading or math in this job? {Whole circle can chime in here}

[Maybe use yarn throwing or foam ball here to get kids to say out loud to each other in circle – who else is good at doing that?? SFU student writes down responses to Q1-3 on data sheets, making sure to write response next to correct name tag # especially for Q1-Q2.

Youth themselves then *write down* on colorful handouts Q4 and Goal 1 to be collected.

Q4. What is your hardest class in school?

****Station leader asks if anyone knows what a goal is, then defines it and explains why making goals are important – for finding a job as an adult and for life in general. WHAT SAY HERE??**

Goal Statement 1: In the after school program, when I work on my hardest homework, I would really like to _____.

Station 2: What does society need me to do? TIME: 10 minutes

[Use Station 2 script p. 9 from Appleton, Beck, et al.]

1. Station 2 leader reads script, then uses Phase 1 data sheet responses on what kids like at home vs. school (linking child number + response on data sheet to child at station) to remind kids what they said if needed. Ask all kids to FIRST write down (or with help) "What do you want to be when you grow up?" Tell them to think about what they like and to write answer again even though also do it in other station.
2. If possible in age-appropriate groups (pair K-2nd only; pair 3rd-5th only; pair 6th-8th only), play Mix-N-Match game with pre-made cut out slips of pictures first. Also ask kids to insert their own what like to do in far left column and lead discussion on what other 2 columns would say. Best to have 2-3 SFU students at Station 2 where possible, one to lead each age group. Ask tutoring staff to help lead a same-age group as needed.

[See Benninghoff, Case, et al. after Appendix 4 roadmap p. 18 + Glendale]

[Training path handouts MERGE Benninghoff et al. Appendix 3 + Litzinger et al. Appendix 3; use diverse clip art images here race/ethnicity and gender that defy stereotypes]

[HOW MANY interests/training/adult job sets should we create???]

- K-2nd: Link youth interests vs. adult jobs by using 2 clearly labeled columns for each group to sort pictures under.
- 3rd-5th and 6th-8th: Link youth interests (far left column) vs. where get more training (middle column) vs. adult jobs (far right column) by using 3 clearly labeled columns for each group to sort pictures under.
 - If 3 columns is too hard for some 3rd-5th encourage them to make 2 columns only.

Discuss where children's own job choices would fall for middle column of type of training. Discuss with all "Where would you go in, or after, high school to get more training for this job?" (3rd-8th grade only) and "What other adult jobs might help you do what you like?"

For K-2 only discuss what adult jobs would go with their interests.

- "What other adult jobs might help you do what you like?"
- Encourage them to look at *Farrell, Long, et al. Appendix 4 handout* OR *Litzinger et al. Appendix 3*
- Emphasize some jobs have multiple options. Ex. police officers – some go to college, then police training school; some go to military first, then police training school.

[Data collector records spoken out loud answers to above 2-3 questions; gives data sheet to Station 1 data collector when Phase 2 is over to keep safe.]

**IF TIME.....Last few minutes if laptop works with wireless in building show PA Career Zone to 3rd-8th; give instruction sheet to take home to try on their own. Station 2 leader(s) then use laptops with PACareerZone filter feature to show all kids how to look up answers to 1st four kids' "What do you want to be when you grow up?"

- Can compare 4 jobs at a time and filter occupation lists by Job Zone (preparation required)
- Show them how to learn how much money and where to go for training

Large Group Discussion PHASE 3 TIME: 20 minutes

Take 1st 5 minutes to tell youth your own majors and why you chose them. Did any of you change your major – why? Answer 2-3 questions about what college is like.

Youth take turns drawing one random career out of a bag from all 20 included – select youth to imagine that was their adult job AFTER Question 1 discussed.

Question 1: Have entire group guess which of 16 clusters the randomly chosen job would fall into. Then discuss child's ideal job when they grow up from earlier – what category would it fall into?

[Insert script about how important it is to like job – yes vs. no; if no how could switch to what you want to be when you grow up? One SFU student draws on road map attached to wall or on table. Script must encourage growth mindset!!!]

Bingo card with all 16 career clusters (keep as data) pre numbered and school abbreviation

- Other kids not drawing career out of bag can put sticker on bingo card cluster if really like that one or if learn their future “Who I want to be” job falls into the discussed cluster.

[Litzinger et al Appendix 2 or Neborg, Jones, et al. bingo card but in color]

Road map

- Small vs. large road blocks = Easy to solve vs. Hard work/Difficult to solve – give examples.
- Maybe draw person who follows one straight path to lead into why not so common? B.A. vs. Master's vs. Ph.D?? Discuss changing majors in college
- Bridges = Sometimes switch gears and do > 1 training after high school; link Station 2 discussion of training after high school options as corresponding to multiple PA career clusters.
- Create new path as of yet “unknown” – invent your own job and what would you bring to work?
- **How draw college majors on college path???** **How symbolize > 1 major in college?**

***Important: All bingo cards should be pre-numbered with school/number that matches child name tag number. Collect all bingo cards with stickers (even ones without any stickers) from kids before they leave for data! Tell them to tear off and turn in; rest of pages are to keep/take home including 2nd page with final ONE sticker for “What I want to be when I grow up”.

RED DAY EXTRA CREDIT COMMITTEES

1. 3 Data Collection Sheets Committee
2. My Toolkit Colorful Handout to Take Home vs. Online Resource Committee
3. Roadmap Flipchart Committee
4. Bingo Card + Draw from Bag 20 Jobs Phase 3 Committee
5. Phase 2 Mix N Match Column Labels and Paper Pieces to Cut Out Committee

My Career



Toolkit

Name:

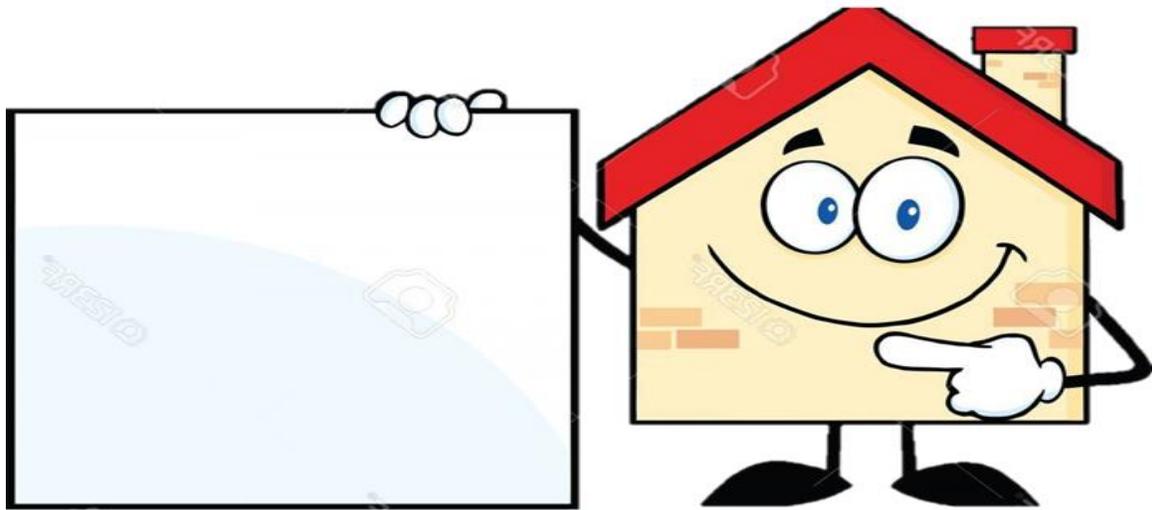
My # is: _____

TAKE THIS HOME TO SHOW YOUR PARENTS!

**Saint Francis University Reaching Every Door
(R.E.D) Day of Community Engagement**

1st FUN GAME: WHAT I LIKE

What do you LIKE TO DO when you are.....
at HOME?



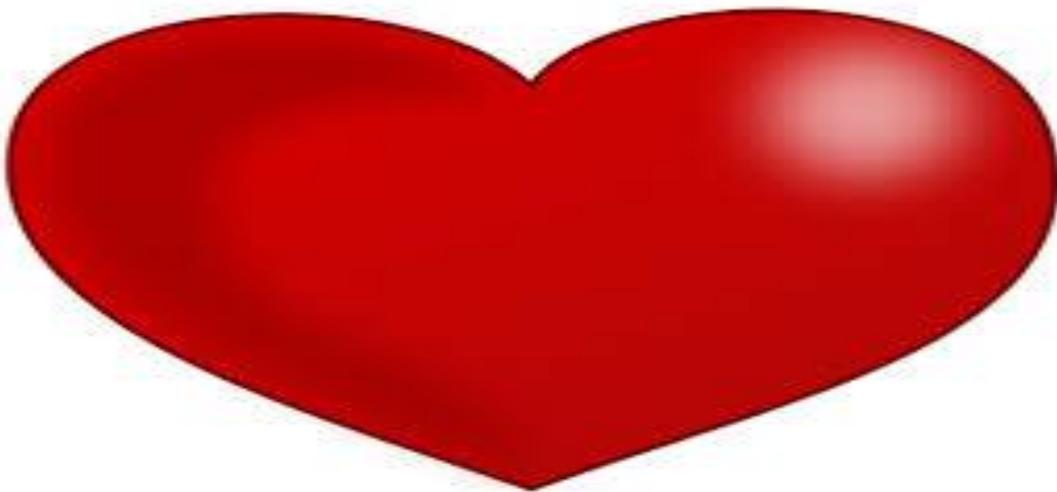
at SCHOOL?



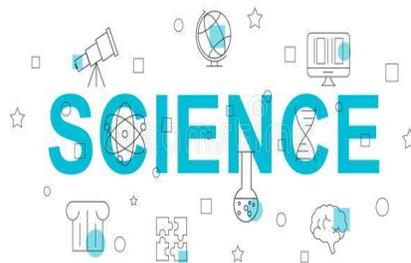
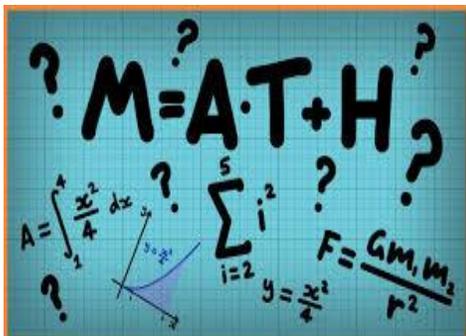
MY 2 PRETEND CAREERS GAME

CAREER: When kids grow up, they get a job that pays them money. If you make **GOALS**, you can get a job that pays you **money** AND that you **really love** doing!

My 2 CAREERS today are...



STATION 1: "WHAT AM I GOOD AT?" GAME
Circle your ONE hardest class!



GOAL: Write down a new YOU this school year.

MY GOAL: In the after school program, when I work on my hardest homework, I want to:

STATION 2: DRAW A LINE TO MATCH EACH!

What **INTEREST MATCHES** what **CAREER**?

INTEREST

CAREER

WHERE TRAIN?



Building a fort



PILOT



Drawing/sketching



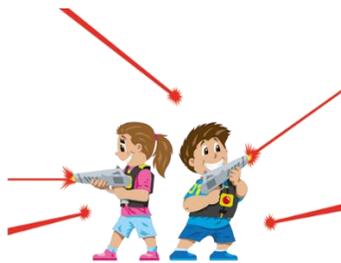
ATHLETE



Running/working out



FASHION/GRAPHIC DESIGN



Battle Play



CARPENTER

STATION 2 – DRAW A LINE TO MATCH EACH!

What **INTEREST MATCHES** what **CAREER**?

INTEREST

CAREER

WHERE TRAIN?



Writing/Journaling



DOCTOR/VET



Sing/Dance/Pretend



AUTHOR



Take care of people/animals



TEACHER



Learning/Reading



SINGER/ACTRESS/ACTOR

Career Training Programs After High School and Web Links

2-Year, 4-Year, and Graduate Colleges

Associate's degree

= 2 years

Bachelor's degree

(B.S.) = 4 years

Master's degree

(M.S.) = 1-2 years after B.S.

Ph.D/M.D./J.D./

Others = even more years after M.S.

-> Pennsylvania Highlands Community College

-> Saint Francis University
www.francis.edu



Military

-> Air Force
www.airforce.com

-> Army
www.goarmy.com

-> Coast Guard
www.uscg.mil

-> Marines
www.marines.com

-> Navy
www.navy.com



Local Community Recreation Centers and Career Training Centers (CTCs)

-> Central Blair Recreation Commission
www.cbrcparks.org/dev/

-> Admiral Peary Area Vocational Technical School
www.admiralpearytec.pa.us/

-> Greater Altoona Career and Technology Center
www.gactc.edu/Page/1



Go to <https://www.pacareerzone.org/clusters> to see 1 of 16 PA Career Clusters.

- Filter Occupations by Highest Paying, Fastest Growing, Most Employed
- Identify Occupations that are High Priority, STEM, Job Zones 1-5 Preparation, and Annual Salary

Go to <https://thebestschools.org/> to compare colleges from associate's degrees to doctorate degrees; includes web-based training programs.

Go to <https://collegescorecard.ed.gov/> to compare certificate vs. 2-year vs. 4-year college programs.

Go to <https://www.todaymilitary.com/careers-benefits/explore-careers>

Go to <https://www.education.pa.gov/K-12/Career%20and%20Technical%20Education/Pages/default.aspx> for Career Technology Centers In PA.

Go to <https://www.apprenticeship.gov/apprenticeship-finder> to learn more about apprenticeships.

Go to <https://www.pasmart.gov/what-is-pasmart/stem-jobs-in-pa/> to learn about STEM jobs in PA.

 <p>Agriculture, Food, Natural Resources</p>	<p>Farmer, Fisher, Environmental Engineer, Food Inspector</p>	 <p>Hospitality & Tourism</p>	<p>Travel Agent, Chef/Baker, Tour Guide, Hotel or Resort Manager</p>
 <p>Architecture & Construction</p>	<p>Architect, Construction Worker, Plumber</p>	 <p>Human Services</p>	<p>Psychologist, Social Worker, Child Welfare, Drug Counselor</p>
 <p>Arts, Audio/Video Technology and Communications</p>	<p>Artist, Graphic or Fashion Designer, Dancer, Weather Reporter, Journalist</p>	 <p>Information Technology</p>	<p>Coder, Web Designer, Computer Engineer, IT Specialist, Computer Security</p>
 <p>Business, Management & Administration</p>	<p>Business Owner, Sales Manager, Entrepreneur</p>	 <p>Law, Public Safety, Corrections & Security</p>	<p>Lawyer, Police Officer, Judge, Military, Corrections Officer</p>
 <p>Education & Training</p>	<p>Teacher, Principal, Librarian, College Professor</p>	 <p>Manufacturing</p>	<p>Factory Worker, Welder, Machinist, Chemical Plant Operator, Industrial Machine Mechanic</p>
 <p>Finance</p>	<p>Accountant, Financial Planner, Investor, Banker, Appraiser</p>	 <p>Marketing, Sales & Service</p>	<p>Cashier, Car Salesman, Advertiser</p>
 <p>Government & Public Administration</p>	<p>Mayor, Governor, President, Public Health Administrator</p>	 <p>Science, Technology, Engineering & Mathematics</p>	<p>Engineer, Astronaut, Scientist, Statistician, Electrician, Carpenter</p>

 Health Science	Doctor, Nurse, Occupational or Physical Therapist	 Transportation, Distribution & Logistics	Pilot, Truck or Bus Driver, Captain, Train or Subway Operator
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16 PA Career Clusters

My # _____

16 Career Cluster Bingo

ALL STICKERS GO ON THIS PAGE.
Put each sticker on your favorite boxes!

 Agriculture, Food & Natural Resources	 Architecture & Construction	 Arts, Audio/Video Technology & Communications	 Business, Management & Administration
 Education & Training	 Finance	 Government & Public Administration	 Health Science
 Hospitality & Tourism	 Human Services	 Information Technology	 Law, Public Safety, Corrections & Security
 Manufacturing, Engineering & Technology	 Marketing, Sales & Customer Service	 Science, Technology, Engineering & Mathematics	 Transportation, Distribution & Logistics

During Spring 2020, the RSG PDE grant-funded teaching assistant, Elana Benninghoff, collected even more RSG youth data related to their ability to write S.M.A.R.T (Specific, Measurable, Attainable, Reason, and Time-bound) academic goals (see SFU research poster below presented virtually as a Community Enrichment Series option for SFU students campus-wide to view in April 2020). In this second research project, Elana and her small research group partners collected data from 39 RSG youth during Feb./March 2020. When Elana and her partners visited three RSG school district after school programs, they played a Hot Potato Game to identify future career goals of youth. Next demographic information and favorite role model was collected from each RSG youth, in order to later relate these to youths' own future career goals. Youth were then asked to write down question answers linked to specific S.M.A.R.T goal questions posed on colorful flower petals. Finally, all youth were taught by Elana and her research partners how to effectively write S.M.A.R.T academic goals in an effort to encourage Positive Action behavior.

The results of their data collection can be viewed on the poster below. Overall, Poster 2 results from April 2020 showed the following main ideas:

- Children's choice of role model and future STEM career may not affect their ability to create effective **S.M.A.R.T** goals (see Figure 1).
- However, significantly higher quality **S.M.A.R.T** goals were created by....
Females than Males and by 6th-8th graders than 1st-5th graders.



Relationship Between Role Models and Goal Setting in Central Pennsylvanian Middle and Elementary Students

Elana K. Benninghoff, Baylee J. Frazier, Kara J. Mooney, and Dr. Marnie L. Moist
Saint Francis University



PAST RESULTS

- Role models can show an outcome that is possible with certain attributes and/or motivation. Therefore, a role model is one of the most important factors in a child's life (White & O'Brien, 1993)
- Students making the connection between STEM careers and communal goals actually expressed greater interest in those careers (Fuesting, et al., 2017).
- Rowe (2017) found that there was a functional relationship between goal setting lessons and students' active academic engagement.

DEFINITIONS & HYPOTHESES

S.M.A.R.T GOAL

S: Specific **M:** Measurable **A:** Attainable **R:** Reason **T:** Time bound

High interaction role model: A personal acquaintance or family member directly interacted with by child. **Ex. Mom**

Low/no interaction role model: A real person, but never met or only seen/interacted with via media. **Ex. YouTube following Ex. Actor**

Fictitious role model: A fictional character appearing in media.

Ex. Spiderman Ex. Sponge Bob

Hypothesis 1: We expected to find in 1st-8th grade central PA RSG after school program youth that those who had high interaction with their self-chosen role model would produce higher quality S.M.A.R.T academic goals than low/no interaction and fictitious role model youths.

Hypothesis 2: We also expected that RSG youth who chose a future STEM career would produce higher quality S.M.A.R.T goals than those choosing non-STEM careers.

Exploratory: We were also curious whether gender and/or grade in school impacted the mean quality of S.M.A.R.T goal scores.

MATERIALS

- 13-item, self created demographic survey
- Hot Potato game brand plush toy w/ random built-in "song-off" feature
- Pre-cut/assembled yellow paper in circles for the center of the flower and red, orange, blue, green, and purple paper was used for the flower petals; each petal had one S.M.A.R.T. goal prompt for youth to answer.
 - Each youth-generated SMART total was scored on a 10 point scale
- 39 colored gel pens to write prompt statements
- Script for the researchers to follow for each school

DESIGN and PROCEDURE

Role Model Conditions: High interaction vs. Low/no interaction vs. Fictitious (Note: Due to only a few students identifying fictitious role models, they were later dropped from statistical analysis).

Future Career Conditions: STEM versus non-STEM careers

• Elementary (1st-5th grade) vs. middle school (6th-8th grade) and Females vs. males were also compared.

Measures: S.M.A.R.T goal total per youth scored on a 10-point scale

• 2X2 factorial, between-subjects quasi-experimental design

SCHOOL VISIT PARTS 1-3

Part 1: Hot potato game where each child who caught the potato had to shout out their future career before leaving the circle.

Part 2: Each child individually asked demographic questions and who they most admired and would want to be like when they grow up. Each then used their S.M.A.R.T goal flower to write down their own goal responses to the 5 flower petal prompt questions.

Part 3: Children all combined were taught how to write effective S.M.A.R.T goals using university student researchers' own academic goals.

RESEARCHER SCORING LATER ON

• RSG Youth were sorted into their naturally occurring conditions.

Their S.M.A.R.T goal statements were each graded with a rubric that scored individual statements for **S: Specific M: Measurable A: Attainable R: Reason T: Time bound** on a 0-2 scale (Total = 10 pts.)

METHOD

Participants:
 • 39 Participants
 (20 Males, 19 Females)
 • Mean Age: 9.21 years old
 • Grades analyzed: 1st to 8th
 • Location: Central Cambria SD, Saint Michael's School, Glendale SD

TWO 2-way ANOVA MAIN EFFECT RESULTS (No interactions found)

HYP 1: We failed to reject the null hypothesis that for RSG youth there was no mean difference in the S.M.A.R.T. scores between the high interaction and the low/no interaction role model populations, $F(1,33)=1.634, p=.2100$.

HYP 2: We failed to reject the null hypothesis that for children's career category there was no mean difference in the S.M.A.R.T. scores between the STEM vs. non-STEM future career populations of RSG youth. $F(1,33)=.636, p=.4310$.

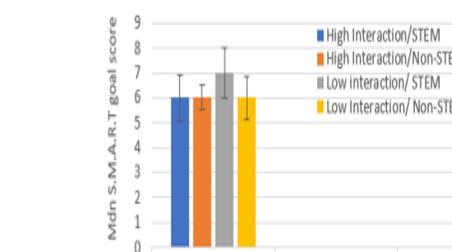
EXPLORATORY

3. We were 95% confident in the alternative that there was some mean difference in the S.M.A.R.T. scores between female and male populations, $F(1,33)=5.886, p=.0210$. Females wrote better quality SMART goals than males.

4. We were 95% confident that there was some mean difference in the S.M.A.R.T. scores between the 1st-5th grader and the 6th-8th grader populations, $F(1,33)=6.503, p=.0160$. Middle school youth wrote better quality SMART goals than 1st-5th.

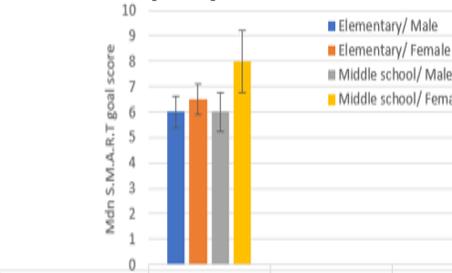
Figures 1-2

Figure 1. Median S.M.A.R.T goal total scores for Respective Solutions Group 1st-8th graders in central PA as a function of self-identified role model type and future career type.



Role Model Type	Future Career Type	Mdn	SEK
High Interaction/STEM		6	0.913
High Interaction/Non-STEM		6	0.491
Low Interaction/STEM		7	1.014
Low Interaction/Non-STEM		6	0.845

Figure 2. Median SMART goal total scores for Respective Solutions Group 1st-8th graders in central PA as a function of gender and grade in school.



Grade	Gender	Mdn	SEK
Elementary/ Male		6	0.637
Elementary/ Female		6.5	0.597
Middle school/ Male		6	0.752
Middle school/ Female		8	1.225

DISCUSSION

- Our results suggest that children's choice of role model and future STEM career may not effect their ability to create effective S.M.A.R.T goals (see Figure 1).
- However, significantly higher quality S.M.A.R.T goals were created by....
Females than Males
 and by
6th-8th graders than 1st-5th graders
- These results can help RSG tutors and area PA teachers focus even more attention on male students' and elementary students' ability to explicitly state effective academic goals for themselves.
- Future research should explore other ways that role models and STEM careers may impact academic goals.