

BASE Outcomes: An Investigation of BASE Impacts  
Upon Academic, Social, and Emotional Skills in Teens  
Excelsior High School and Middle School  
Data compiled and run by Excelsior Youth Center

### Abstract

This study examined the outcomes and impacts of BASE programming on client academic and social-emotional skills. Teenage clients between ages 10 and 18 participated in BASE programming as part of a crisis stabilization program. We predicted BASE programming would lead to an improvement in educational outcomes as well as social-emotional outcomes. We measured GPA across subjects, the time clients dedicated to different subjects, and staff appraisals of client behaviors and benefits. We found clients demonstrated improved academic performance after working on BASE and staff reported significant benefit to 94% of clients. These findings supported our hypothesis, were consistent with research on similar interventions, and suggested other settings would benefit from using BASE programming.

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Teenagers struggle with countless issues on a daily basis that impact how they exist in the world. From bullying to low self esteem and impulsive decision making to future goals, teens face a variety of complex challenges. Many teens lack crucial life skills necessary for survival and life navigation. The most supported and successful teens benefit from additional interventions to enhance their social and emotional skills in a constructive and interactive manner. How can we identify and address concerning behavioral, emotional, or social signs? How can we help prepare our teens for healthy and successful lives?

Existing programs offer students an array of interventions and supports. Many interventions have been developed and studied in hopes of supporting teens academically through online lessons. The iReady and A+nywhere Learning Systems programs exemplify the value of a technology-based learning environment. Grade tracking is made easy through these programs and student needs are individually assessed and addressed. Other programs create supplementary education about social and emotional problems. Second Step programming offers social, emotional, and behavioral support for elementary students. This program offers specific tools and interventions to address student issues.

These programs offer tools to help teens navigate their academic lessons or their daily challenges, however, they still lack important strengths. BASE is a program developed by a clinical team to address the very concerns most teens face in an interactive, engaging, and educational format. The program provides users with important information, tools, examples, and opportunities to share. Administrators have access to teen answers to help identify safety concerns, highlight the teen's strengths, and determine areas where extra support is needed. The program offers technology advantages similar to iReady and A+nywhere Learning Systems while offering a more inclusive interface for students of all abilities. BASE also encourages

reading skills while addressing the social and emotional concerns similar to those Second Step addresses. BASE brings social and emotional interventions into the age of technology in a way Second Step has yet to offer. BASE fills the gaps in programming while offering the best components of these other programs. Given this role, the present study investigates the need for such a program and how effectively BASE fills this need.

We predict at least 25% of the clients will complete each module, illustrating interest in and a willingness to complete courses. We expect 10% of clients will complete all modules and start extension projects based on their work in BASE. We hypothesize that clients will show engagement in BASE programming by choosing to work on BASE for more time than they will choose to work on math or reading. Clients are expected to earn a better GPA in BASE than in math or reading and they will show improved academic performance in math and reading after using BASE. We anticipate BASE will help at least 90% of clients build their behavioral, social, and emotional skills without harming academic performance or emotional welfare.

## Methods

### *Participants*

Participants included 50 teenage clients enrolled in a crisis stabilization program at Excelsior (45 female identifying, 3 male identifying, and 2 gender-fluid identifying). Participants were chosen randomly from 300 BASE users and voluntarily participated in BASE as part of their crisis stabilization services. Ranging from age 10 to 18, participants completed anywhere from 1 to 23 modules in BASE across varying lengths of stay at Excelsior. Participants represented diverse socio-economic, ability, and ethnic backgrounds. Participants were excluded if they did not complete any BASE programming due to personal choice or length of stay as this would not effectively measure the impact of BASE.

### *Materials*

BASE is comprised of 23 modules (at the time of this evaluation although there are 30 modules as of August 2016) created by a clinical team to address social and emotional issues teens face daily. Each module asks between 11 and 60 questions and takes the average client approximately 60 to 90 minutes to complete. Clients are given a variety of examples, multiple choice questions, term definitions, short answer questions, psychological research findings, true or false questions, quotes to consider, and word banks to choose from.

Academic performance was measured by the client's grade point average (GPA) in each subject. GPA in math and reading were determined by academic score assigned by iReady, A+nywhere Learning System, or teacher grading for paperwork assignments. GPA in BASE was determined by Excelsior teachers based on productivity, effort invested, and behavioral observations during the time clients worked on BASE modules. Clients earned affective education credits for their BASE work. Client answers were reviewed daily by teachers and recorded on an individual BASE Tracking Sheet. Modules and grades were recorded on individual electronic grade sheets for classroom purposes.

Popularity of modules was determined from the mode number of clients who chose to take each module. Time allocated to each subject was determined through grade sheet summations of the time clients earned credit in each area. The impact of BASE was measured by comparing grades earned in the first 3 days of academic work after completing iReady placement diagnostics to the last 3 days of academic work before leaving Excelsior. Difficulty of assignment, number of assignments completed, changes in grades, and the difficulty of programming were considered in determining improvement. If clients returned multiple times to Excelsior or were enrolled over multiple school terms, the time and impact was averaged. Behavioral and emotional outcomes were measured through teacher observations, grade sheet notations, behavior referrals, and participation grades. Overall impact was determined by

teachers categorizing each client into one of the three categories: BASE helped the client, BASE might have helped the client although there was some conflicting evidence, or BASE did not help the client. Across the two teachers rating overall impact, there were no instances of disagreement.

### *Procedure*

Parents of clients signed consents and releases for BASE participation and research as part of the admissions process. Prior to entering the classroom, clients were entered into the BASE program by a teacher using admissions intake information. Basic demographic information was securely recorded in BASE during entry. Clients were assigned a unique personal username and password based on their name and client identification numbers. Baseline academic data was gathered during the first 3 entries under each subject after completing the iReady diagnostic tests. Clients were introduced to BASE programming through a one on one conversation with a teacher, and they were instructed to choose modules they felt were most relevant to their needs. Each module contains a mandatory disclosure, which includes clauses surrounding confidentiality, voluntary consent, participation, and completion instructions.

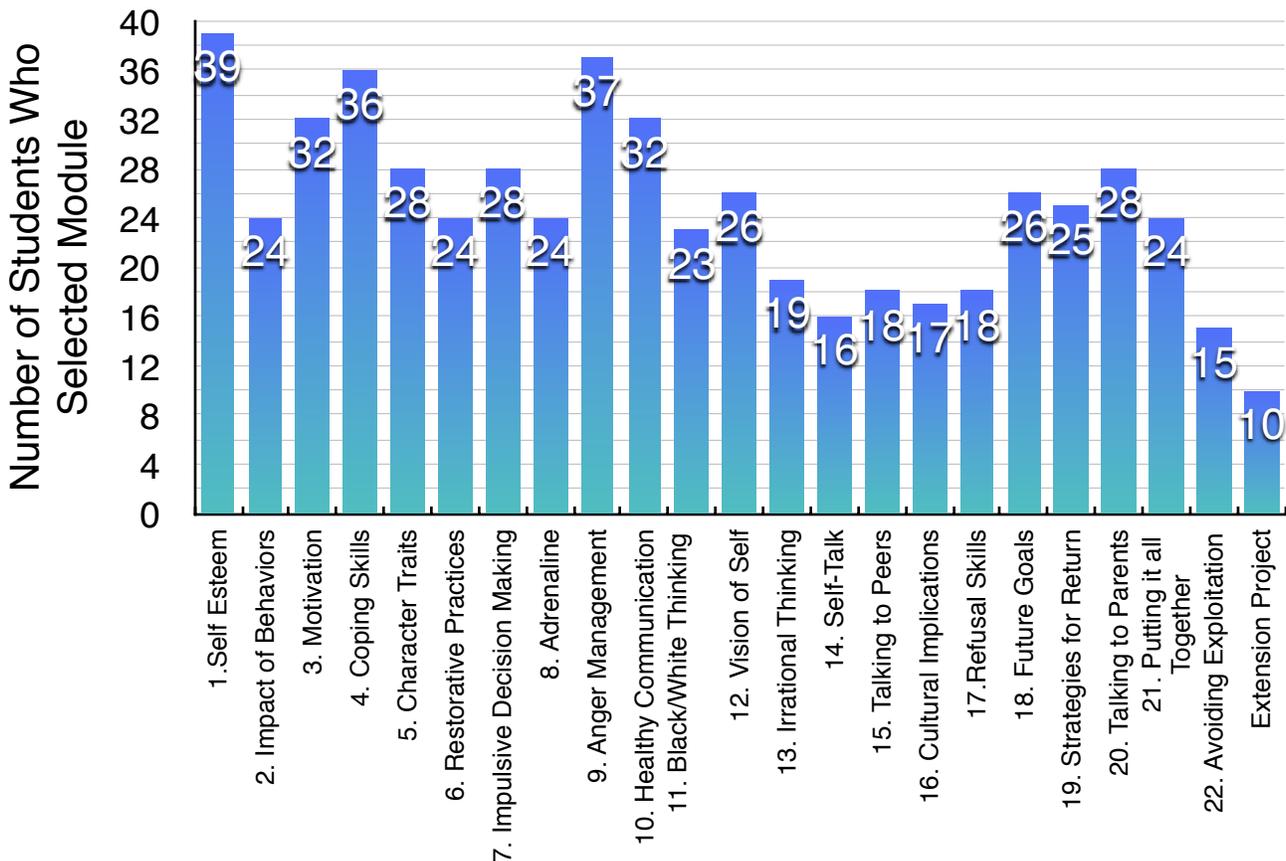
Teachers were available to answer questions and assist clients in understanding modules when necessary. Clients were given the opportunity to work on BASE for any amount of time (between 0 minutes and 6 hours a day) they desired, including not participating if they so chose. Fire words were triggered by an algorithm screening for suicidal and homicidal ideation. Notification emails were sent to BASE administrators at Excelsior if a fire word was triggered. Teachers acknowledged fire words daily and provided supportive evidence in determining whether an answer was safe or unsafe. Fire word acknowledgments were time and date stamped with the teacher's username. Teachers engaged clients in one on one dialog to discuss BASE answers and provide debriefing on a daily basis.

Client answers and progress were recorded using a BASE tracking sheet (see attached). Teachers assigned grades for BASE work up to the minute based on effort invested, thoughtfulness, and behavior during the time the client worked on BASE. Academic grades were determined from online education programs or teacher grading of paper copies of work. Grades were recorded hourly for BASE and academic work. Client answers and information were stored electronically in a secure Cloud environment while their BASE tracking sheets were stored in a locked cabinet in a locked room. Grade sheets and tracking were stored electronically on a secure drive in a locked room. All information will be stored for 5 years in compliance with regulations prior to being securely destroyed.

Results

The most popular modules included Self-Esteem, Anger Management, Coping Skills, Motivation, and Healthy Communication. Given their choice of modules, 39 clients chose to work on Self-Esteem and 37 clients chose to work on Anger Management (see Figure 1).

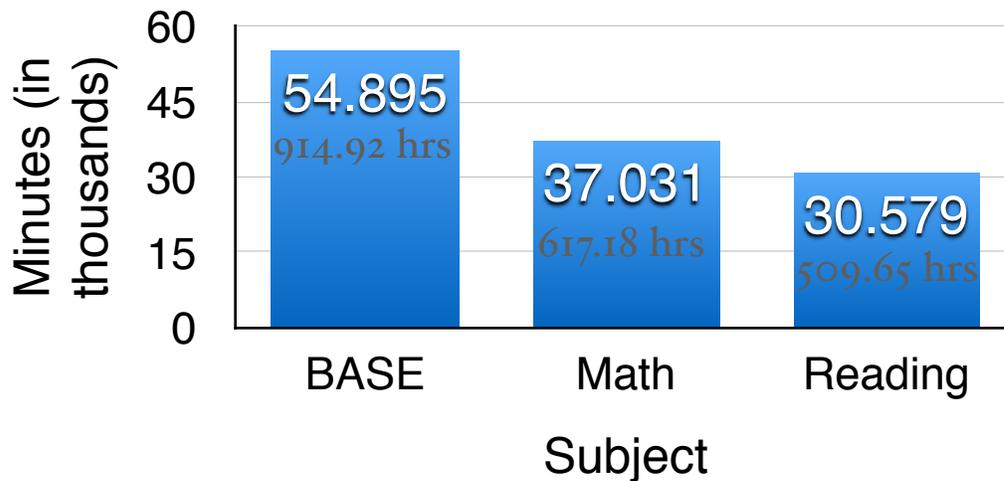
Figure 1.



Additionally, 36 clients chose to work on Coping Skills, 32 clients chose Motivation, and 32 clients chose Healthy Communication. A total of 10 clients completed all modules and then worked on a classroom extension project related to BASE.

Clients spent a combined total of 54,895 minutes (914.92 hours) on BASE, 37,031 minutes (617.18 hours) on math, and 30,579 minutes (509.65 hours) on reading (see Figure 2). Clients spent a combined total of 12,715 minutes (211.92 hours) more on academic subjects than on BASE.

Figure 2.



Clients earned an average GPA of 3.43 across BASE, math, and reading. The clients earned an average GPA of 3.59 in BASE, an average GPA of 3.45 in math, and an average GPA of 3.25 in reading (see Figure 3). From the first 3 grade entries to the last 3 grade entries in math, a total of 32 of the 50 clients demonstrated an improvement in academic performance in mathematics after utilizing BASE programming (see Figure 4). Overall, 29 of the 50 clients showed increased academic performance in reading after using BASE. No clients demonstrated a regression in academic performance in math or reading after being introduced to BASE modules.

Figure 3.

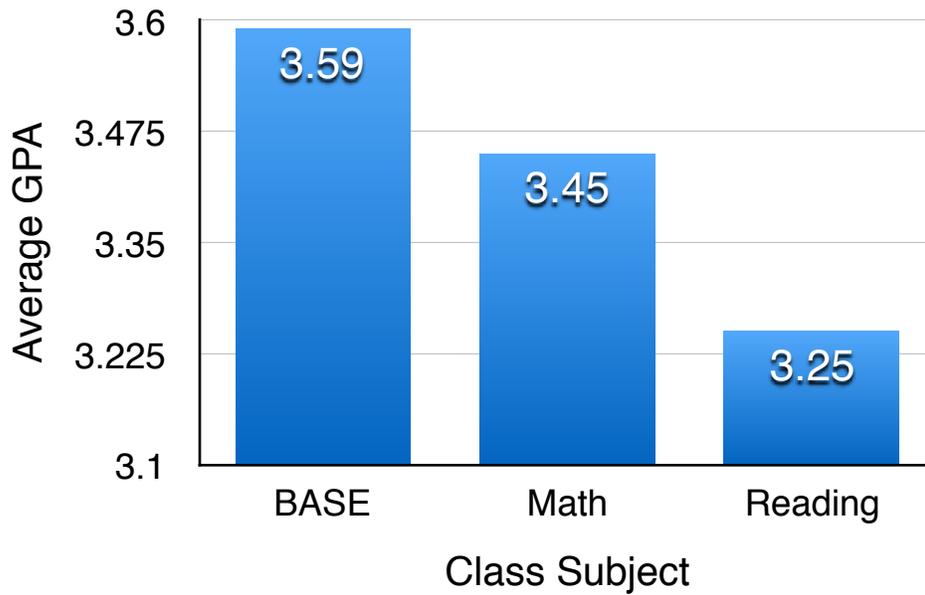
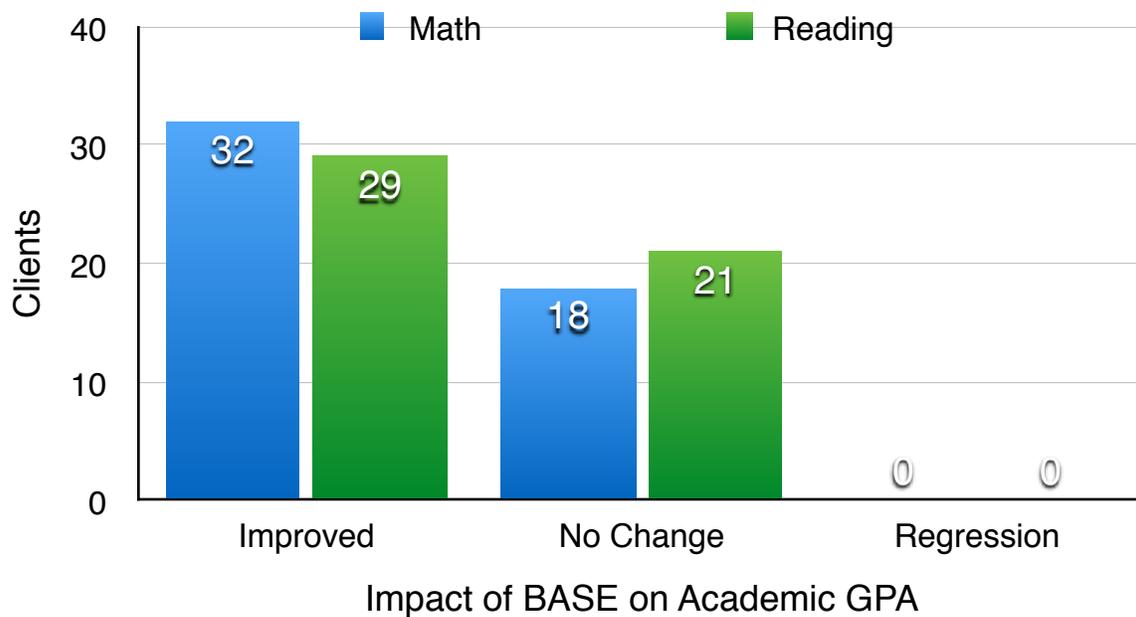


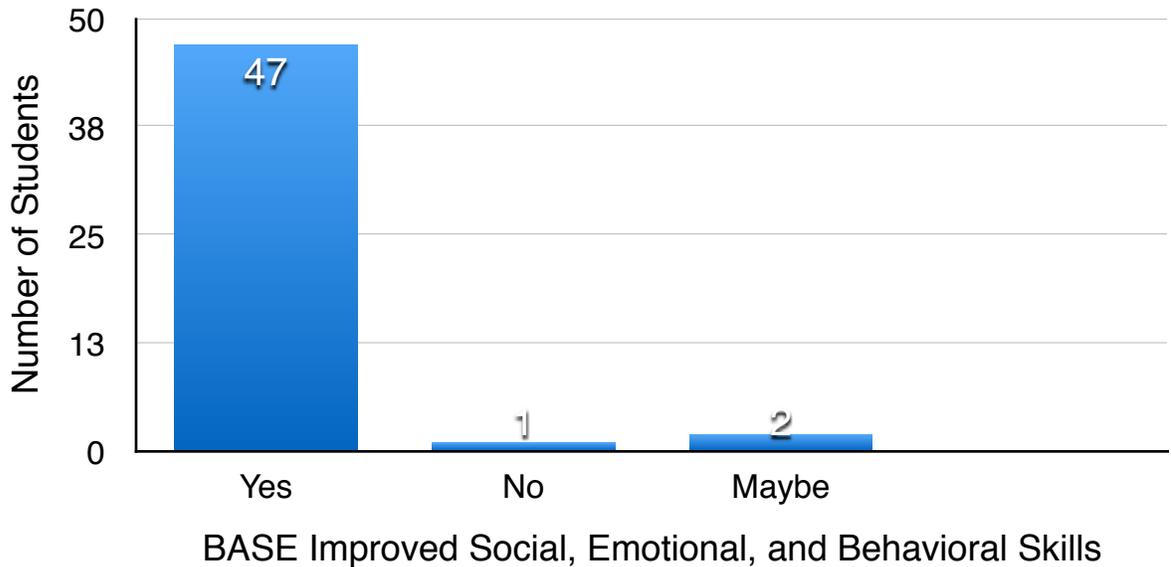
Figure 4.



Teachers reported BASE improved behavioral, emotional, and social functioning for 47 of the clients (see Figure 5). One client demonstrated no clear benefit and two clients demonstrated improvement in some of the three areas, but not all three. According to teacher

observation, no clients showed a regression in behavior, emotional, or social skills and no clients were harmed by using BASE.

Figure 5.



At least 25% of the clients were anticipated to complete each module given the varying number of modules taken by each client. The results supported this hypothesis and showed between 30% and 78% of clients took each module. We expected 10% of clients to complete all modules and start extension projects based on their work in BASE. Our results exceeded our expectations as 20% of the clients worked on extension projects after finishing all modules. We predicted that clients would show engagement in BASE programming by choosing to work on BASE for more time than they would choose to work on math or reading. The results supported this prediction, however, clients still worked 12,715 minutes longer on academic subjects combined than on BASE.

Clients were expected to earn a better GPA in BASE than in math or reading, and the results supported this hypothesis. BASE was expected to improve academic GPA in both math and reading. BASE showed an improvement in math performance for 32 clients and an improvement in reading performance for 29 clients. No clients were expected to regress

academically when BASE programming was introduced and the results supported this expectation. BASE was expected to help at least 90% of clients behaviorally, socially, and emotionally. Teachers reported BASE improved behavioral, social, and emotional functioning in 94% of their clients. Teachers reported no regression in these skills for any clients.

Overall, most clients demonstrated engagement in the program. Significant changes noted were positive grade point averages in BASE, academic improvement in math and reading with the introduction of BASE, and improved behavioral, social, and emotional functioning according to teachers. Classroom functioning, behavior stabilization, and academic progress significantly improved for most students with the introduction of BASE programming. None of the clients showed signs of harm or regression with the introduction of BASE. The research suggests BASE significantly benefited clients in the classroom.

#### Discussion

The purpose of this study was to explore the impact of BASE programming on academic and social-emotional skills within a classroom environment. We predicted BASE would have a positive impact on academic performance in math and reading and would improve client behavior and social-emotional skills. Clients demonstrated engagement in the program through their module selection, time per subject, and GPA. Most clients demonstrated an improvement in academic performance in math and reading. According to teachers, 94% of clients benefited from BASE on behavioral, social, and emotional levels.

These findings are consistent with the success found with other online educational systems such as iReady and A+nywhere Learning Systems. Together these programs suggest clients benefit academically from online educational programs. The findings are also consistent with Second Step's success in improving behavioral outcomes through social-emotional programming. BASE and Second Step reveal the importance of social-emotional interventions for young people. The results may have been impacted by other structural components of the

crisis intervention program, however, this seems unlikely given the baseline measurements taken prior to introducing BASE. Another study on BASE found 100% of clients reported they were comfortable using computers and 94% did not feel judged while using BASE, further demonstrating client engagement with BASE programming. The results of that study echo the findings we found in this study and further support that clients like using BASE programming.

Future studies should investigate client perspectives of BASE, more specific measures of social-emotional progress, and the impact of BASE in other situations such as public schools or court systems. This study suggests teens benefit from BASE on academic, social, emotional, and behavioral levels. BASE could change how intervention and prevention work is conducted with teens while providing safety and accountability from an administrative perspective. BASE should be implemented in other programs to benefit more teens in a way that engages and supports them.