

BASE EDUCATION

A Research-Backed Mental Health Solution for Adolescents

BASE Education is an interactive, online mental health solution explicitly designed for students and educators to engage them on the social-emotional health issues that middle and high school students commonly face. Developed by clinical professionals through years of hands-on work with high-risk adolescents and their families, the BASE Education platform contains self-paced modules that promote factual understanding, positive attitudes, and adaptive practices in more than 80 instructional topic areas. These include self-esteem, anger management, healthy communication, stress and anxiety, impulsive decision-making, and more. The modules offer informative lessons and a series of self-reflection questions to help adolescents apply the presented content to their own lives, identify potential challenges they face in that area, and gain a greater understanding of their own cognitive or behavioral patterns.

The BASE software is available for online access and use by schools and mental health systems to help address the mental health needs of adolescents and prevent the escalation of mental health issues. Implementers select from a library of modules, as needed, to address specific issues faced by the adolescents they serve. Each module takes 30-45 minutes to complete, allowing it to be completed within a regular class period or after school via a secure login to the online portal.

The CASEL-recognized mental health solution has been used by more than 1,000,000 adolescents nationwide, helping to create deeper connections between students and educators. All middle and high school modules are written at a sixth-grade reading level and are rooted in research.

Our case studies into the effectiveness of the solution show that with proper implementation, students and educators can expect improvements in self-efficacy and school engagement. These four studies show varying use cases for the solution among diverse settings but generally indicate positive results.

Although the studies were designed to evaluate the program for different outcomes, readers will find that at least three studies indicate that students using the BASE Education program also correlated with improved academic achievement. Half of the studies also found that students using the solution experienced increased self-perception of varying aspects. Some of the studies included educator assessments as part of the research. In all of these, educators reported they saw improvements in students' behavior and/or academic engagement and achievement. Additionally, some studies showed that greater time spent using the BASE program correlated with higher outcomes.

Read a deeper dive into each of the studies below.

Study 1: Impact of a School-Based Universal Mental Health Education Intervention for Adolescents

Researchers evaluated the efficacy of the BASE mental health education program for middle school students at two school districts, one in Missouri and one in Colorado. In total, 22 classrooms participated, and 283 middle school students fully completed the research study. Parent consent and youth assent were obtained from all participants prior to participation, and teachers were provided with training to use the BASE Education program.

Eleven classrooms were assigned to use BASE, while another eleven, serving as the control group (CO), did not use any intervention. Educators received the assignment randomly on a rolling basis as they signed up. Overall, 153 students (54.1%) were assigned to BASE, and 130 students (45.9%) were assigned to CO. No significant gender, race, ethnicity, or school differences existed across the BASE and CO conditions. However, due to randomness, more 8th graders were assigned to the BASE group than other grade levels.

All parts of the study were completed online through a secure project website. Before the intervention, students took surveys about their self-perceptions of their social, emotional, and cognitive levels in school, as well as their knowledge of the content covered by BASE. Teachers also completed pre-surveys to assess their students' school engagement and behavioral and emotional school-based adjustment.

Over the next five weeks, students in the BASE group completed one online learning module weekly as part of their regular classroom activities, which took 30-45 minutes per week. The five online learning modules were Self-Esteem, Digital Citizenship, Bullying/Cyber-Bullying, Motivation, and Future Goals — a selected sample from BASE's library of modules because of their relevance as social-emotional learning topics for the age group. Teachers also continued to fill out surveys to report their students' adjustment levels. Login activity was monitored to ensure fidelity to implementation. Meanwhile, the control group completed typical classroom activities without access to the online learning modules. After five

weeks, students and teachers completed post-intervention surveys along the same lines.

When the survey results were analyzed, the researchers found some statistically significant results. Namely, students who participated in the BASE education significantly improved their knowledge of the content compared to the baseline, more so than the control group — indicating gains in social-emotional content literacy. Additionally, teachers reported that students in the BASE condition showed greater school engagement post-intervention, whereas students in the control group showed a decline there.

When broken out by demographics, researchers saw that students in both 6th and 7th grades in the BASE intervention group had significantly more interest in school learning than those in the control group. This differed from the eighth graders, as students in the control group reported more enjoyment of school activities than the treatment group, which researchers attributed most likely to cognitive maturity.

Interestingly, in all instances, Hispanic students in the BASE group showed significant improvements in emotional engagement in school and life skills (e.g., emotion regulation, flexibility). In contrast, Hispanic students in the control group showed declines in these areas over the study.

The researchers also found positive correlation between spending more time on the modules with gains in BASE content knowledge, as well as improvements in students' self-efficacy and beliefs that school engagement is important for developing cognitive style and achieving future goals.

Researchers believe that further study into the efficacy of BASE could be improved with a more extended intervention period, and given the surprising finding into Hispanic students' self-perception, further studies could examine the efficacy of BASE where comparison across demographic sub-groups is deliberately included in the research design.

Study 2: BASE Education Research Brief: Summer 2018

This study analyzed trends in how participants used the BASE Education program. Data were collected from participants' activity and responses on the BASE Education website — particularly 218 participants, aged 11-18, from 17 schools across four states. These participants completed 625 BASE course modules.

The analysis found that the average course completion level was 87%, and 445 (71%) of the 625 modules were completed in their entirety. It also ranked the "engagement levels" of answers in the course modules, giving scores from 1-4, with 0 as no or irrelevant engagement and 4 as full engagement with complete sentences and related directly to the prompt. The average engagement level across all answers was 1.97.

An examination of trends in disclosure found that, on average, participants disclosed ten personal aspects of their lives per module. Furthermore, in the answers, "firewords" marked "unsafe" language; of the 962 firewords found, 283 (29%) were considered "unsafe" for various reasons, including:

- Threats of violence to peers or teachers
- Self-harm/suicide
- Related to substance use/addiction
- Depression
- Bullying

Researchers also broke down these results by self-reported demographics. They found that age was not a factor in differences in completion, disclosure, engagement, and firewords. Interestingly, they found that there were significant differences in terms of disclosure and engagement levels by gender in terms of disclosure and engagement levels. There were, however, no differences between male and female completion.

The results of this analysis indicate that the BASE Education format and content are well-suited. Additionally, the disclosure results support that the content in the BASE courses elicits personal reflection from the users, which is an essential

part of learning and retention. It also indicates that users feel safe enough to share personal stories on the BASE Education website, which supports the overall format of BASE. Lastly, the analysis that found a relatively high number of firewords supports the importance of the "fireword" feature to pull out potentially dangerous responses and alert educators to students who require greater support/interventions/etc.

Study 3: BASE Excelsior Case Study

This study examined the outcomes and impacts of BASE programming on the academic and social-emotional skills of 50 teenage clients between the ages of 10-18 enrolled in a crisis stabilization program at Excelsior. Participants were chosen randomly from 300 BASE users and voluntarily participated in BASE as part of their crisis stabilization services. Of the 50, 45 were female-identifying, 3 were male-identifying, and 2 were gender-fluid identifying. Participants completed anywhere from 1-23 modules in BASE across varying lengths of stay at Excelsior.

The study involved measuring GPA across subjects, the time clients dedicated to different subjects, and staff assessments of client behaviors and benefits.

Because the participants could self-select modules, the study measured the popularity of the modules. The most popular modules included:

- Self-Esteem (39)
- Anger Management (37)
- Coping Skills (36)
- Motivation (32)
- Healthy Communication (32)

A total of 10 clients completed all modules and then worked on a classroom extension project related to BASE.

Results also found that clients spent a combined total of 54,895 minutes (914.92 hours) on BASE (although it was unclear what the average amount of time spent on the program was). The study also tracked participants' GPAs throughout their

BASE learning. From the first 3 grade entries to the last 3 grade entries in math, 32 of the 50 clients demonstrated an improvement in academic performance in mathematics after utilizing BASE programming. Overall, 29 of the 50 clients showed increased academic performance in reading after using BASE. No clients demonstrated regression in academic performance in math or reading after being introduced to BASE modules.

Teachers also reported that BASE improved behavioral, emotional, and social functioning for 47 of the clients (94%). According to the teacher, one client demonstrated no apparent benefit, while two clients demonstrated improvement in some of the three areas but not all three.

Additionally, 100% of clients reported they were comfortable using computers, and 94% did not feel judged while using BASE. The analysis concluded that future studies could 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.

Study 4: UNLV Study

In this study, educators aimed to implement a curriculum to address student coping skills and their impact on academic student performance for a target population of 7th and 8th grade, high-risk African American and Hispanic students who were performing below expected outcomes in mathematics and ELA.

Seventeen students in one classroom who met these criteria participated in the study, and another classroom with similar students served as a control group.

The implementation of the BASE Education program was to have two topics presented to the test group for nine weeks.

Before undertaking the BASE Education program, the students were administered a perception questionnaire to determine how they felt about themselves as learners. The results indicated a low perceptual opinion by all but two students. Both this group and the control group also were given mathematics tests.

Over the course of the study, students watched interactive slide shows as part of the BASE Education program, with topics ranging from thinking strategies to coping skills to dealing with parents. According to observations, they also continued to learn math and began to share more of their thoughts in-classroom. The researchers noted that this helped the adult educators gain accessibility to student responses and build strong collaborative relationships they may not have.

An analysis of the test results showed that in the group of students who were given the BASE test, 16 out of 17 students increased their math test scores by at least 20% on the post-test for an overall class average of 94% in mathematical performance. The control class also improved, as 8 out of 17 students (47%) improved their performance on the same test for a class average of 47%.

A second comparison was made between the number of questions correct on the pre-and post-test, and the percentage of growth for each student was determined. Upon the plan completion, data was analyzed and showed the test group individually scored an average of 28.6% increase in mathematical academic performance compared to the control group of 13.2%. The study concluded that these findings indicate that the target group receiving the intervention was better prepared emotionally than the control group, considering the lessons for math in both classes were aligned and followed the same lesson plans.

About BASE Education, a 7 Mindsets Solution

BASE Education is a comprehensive student mental health platform that offers personalized learning pathways for students needing Tiers 2 and 3 support. Founded in 2014, BASE Education is recognized by CASEL for its high-quality content, innovation, and other implementation supports, including a built-in notification system for crisis intervention. Since its launch, BASE Education has been used by more than 500,000 students nationwide.