

Program Evaluation Report

January 2024

nXu's High School Purpose and Social-Emotional Learning (SEL) Development Curriculum

Purpose and Background

nXu, short for nexus, is a national non-profit organization whose mission is to catalyze and equip youth and adults to explore, articulate, and pursue their purpose. nXu has developed and codified their research-based Nexus Purpose and Social-Emotional Learning (SEL) Development Curriculum (Nexus Curriculum) to be shared with and used by schools and organizations to foster students' sense of purpose and develop their social-emotional competencies.

The aim of nXu is to help individuals develop their sense of purpose, cultivate their social and emotional learning (SEL) competencies, and strengthen their personal and professional identities. Purpose plays a crucial role in the drive and direction an individual feels for their lives. The work at nXu has been informed by existing youth purpose development research by various researchers including Professor Dr. [William Damon](#)¹, director of the Stanford Center on Adolescence, and Dr. [Heather Malin](#)², director of research at the Stanford Center on Adolescence, who has been an nXu collaborator.

Purpose is defined as a “stable and generalized intention to accomplish something that is at the same time meaningful to the self and consequential for the world beyond the self.”³

The Nexus curriculum is anchored around purpose due to the relationship between purpose and a [greater academic engagement](#)⁴, a [greater resilience](#)⁵, a [greater well-being](#)^{6,7}, and [positive career identities](#).⁸

The Nexus Curriculum provides rigorous, scaffolded, research-based, purpose development experiences for young people in the classroom. The curriculum is intentionally scoped and sequenced by grade level to be developmentally appropriate. It is designed to create intentional space to elevate joy, center participant voices and experiences, and allow participants to show up, express, own, and celebrate their full authentic selves. The Nexus Curriculum is developed to foster positive social behavior and improve student social emotional skills and learning. nXu's definition of “positive social behavior” aligns to CASEL's definition of “improved student positive social behavior.” nXu defines CASEL's construct

¹ Damon, William. *The Path to Purpose*. 2008

² Malin, Heather. *Teaching For Purpose*. 2018

³ Damon, William. *The Path to Purpose*. 2008

⁴ Yeager, David, et al. “Boring but Important: A Self Transcendent Purpose for Learning Fosters Academic Self-Regulation”. 2015

⁵ Malin, Heather, “Teaching Purpose for Resilience and Healing”, Harvard Graduate School of Education. January 31, 2019. <https://www.hepg.org/blog/teaching-purpose-for-resilience-and-flourishing>

⁶ Kiang, Lisa and Fuligni, Andrew. “Meaning in Life as a Mediator of Ethnic Identity and Adjustment Among Adolescents from Latin, Asian, and European American Backgrounds”. 2010

⁷ Burrow, O'Dell, & Hill. “Profiles of a Developmental Asset: Youth Purpose as a Context for Hope & Well-Being”. 2009

⁸ Anthis, Kristine. “Hope, Will, Purpose, Competence, & Fidelity: Ego Strengths as Predictors of Career Identity”. 2014

“improved student SEL skills and attitudes” as the combination of its “purpose-driven” and “emotional wellness” constructs.

This study builds upon theoretical existing research on the definition and value of purpose and SEL competencies, to evaluate a concrete, in-classroom curriculum designed to increase a student’s sense of purpose and social emotional learning. Adolescent purpose is intricately connected to positive social behavior and serves as a valuable social-emotional learning skill. The development of purpose in adolescence is associated with psychological benefits and has implications for academic achievement and civic engagement⁹ and correlates strongly with psychological wellbeing.¹⁰

Methods

The goal of this evaluation was to determine if students’ responses on pre- and post-curriculum self-report surveys related to purpose and SEL competencies showed a statistically significant improvement in comparison to a matched comparison group who did not receive instruction in the Nexus Curriculum. The evaluation compared the difference between the student groups’ **overall averaged responses** to the pre- and post-surveys. The responses were also compared **within each developmental area of the curriculum, including:** Belonging and Connection, Emotional Wellness, Positive Identity Development, Positive Social Behavior, and Purpose-Driven.

Measurement Tool

nXu developed a research-based online survey assessment that corresponded with the curriculum units. The Nexus Curriculum was created with support from independent subject matter experts on the five key developmental area constructs. The measurement tool was pilot tested for validity of the developmental areas. Each construct was created with several items for inter-assessment reliability, and a 5-point scale was used across all items. A scale was selected that would be most accessible to a range of participants. Factor analysis was performed to the end of each survey year to refine the online survey.

Evaluation Procedure

The study used a quasi-experimental design to test the difference in change between pre- and post-survey responses between the intervention student group who received the curriculum and the control student group who did not. Participants were students in 12th grade between the ages of 16 and 17 who attended a public charter high school located in Brooklyn, New York, during the 2021-2022 academic year. All 12th grade students were enrolled in Senior Seminar, a class designed to prepare students for post-secondary success; however, students in the intervention group received instruction in the Nexus Curriculum during this time. Both the intervention and control student groups completed the same survey measures prior to the curriculum being administered and after the curriculum was completed.

⁹ Summers & Falco. The Development and Validation of a New Measure of Adolescent Purpose. 2020

¹⁰ King et al. Positive affect and the experience of meaning in life. 2006

Participants

Participants included 104 12th grade students from a public charter high school located in Brooklyn, New York. Of the students who participated in the study, 53 students were randomly assigned to receive the Nexus Curriculum and 51 students were randomly assigned to the control group.

Demographics Within the intervention group, 31 participants identified as female, 18 participants identified as male, 3 participants identified as non-binary/genderqueer, and 1 participant preferred not to answer. Within the control group, 22 participants identified as female, 27 participants identified as male, 1 participant identified as non-binary/genderqueer, and 1 participant preferred not to answer.

Within the intervention group, 8 participants identified as Hispanic or Latinx, 37 participants identified as Black or African American, 3 participants identified as Middle Eastern or North African, 2 participants identified as Asian or Asian American, and 3 participants preferred not to answer or identified as Other.

Within the control group, 8 participants identified as Hispanic or Latinx, 40 participants identified as Black or African American, 1 participant identified as Middle Eastern or North African, 0 participants identified as Asian or Asian American, and 2 participants preferred not to answer or identified as Other.

Missing Data There were 165 students originally selected to be part of the research and evaluation study. However, students who did not assent to be part of the study were removed from the dataset (n=20). Students who did not complete the entire survey (n=21) and/or did not have both a pre-survey and post-survey response were also removed from the dataset (n=20). The remaining 104 students participated in the study.

Recruitment and Consent Teachers were recruited for the Nexus Curriculum training and were administering the curriculum to a subset of the 12th grade class. Intervention students were given the opportunity to opt-into the evaluation or opt-out. The rest of the 12th grade class that was not attending the Nexus Curriculum course was able to opt-into joining the study as a control student. For control participants, students who had previously experienced the Nexus Curriculum were excluded from the study. Parents or guardians were provided an option to opt their child out of the study.

Measures

Participants were asked to complete a survey consisting of 66 survey items. The survey took approximately thirty minutes to complete. The participants were asked to complete the survey twice in the 2021-2022 school year, once to establish a baseline prior to receiving the curriculum and a second time after the end of the program.

The self-report surveys included between 9 and 15 survey questions per developmental area. The survey items asked students to reflect on their agreement with statements and rate their agreement on a 5-point scale. For example, in the Purpose-Driven developmental area, the students responded with their agreement to the statement, “My life has a clear sense of purpose,” which is aligned to CASEL’s “improved student SEL skills and attitudes” construct. A rating of ‘5’ on the five-point scale would indicate a stronger agreement with the statement, while a rating of ‘1’ would indicate little or no agreement.

Analyses

Student responses were summarized by a pre-survey and post-survey average for each developmental area and overall. For all matching, assenting, and completed surveys, the pre-survey mean and post-survey mean difference was calculated to find the **pre-post change value**.

To compare the change in student responses from pre-surveys to post-surveys between the control group and Nexus Curriculum group, a Welch's t-test was conducted to compare the control pre-post change and Nexus Curriculum pre-post change. Additionally, a Welch's t-test was conducted for each of the five developmental areas, which are subsets of the overall average, and compared the pre-post change in the control to the Nexus Curriculum group for each of the areas. An Analysis of Covariance (ANCOVA) was utilized to analyze the post-intervention survey scores of students while controlling for pre-intervention scores as a covariate.

Baseline Comparison To confirm the control group and Nexus Curriculum groups had equivalent baselines and therefore are comparable, the pre-survey response means were compared using a Welch's t-test to see if there was a significant difference.

An alpha level of .05 was used for all analyses. The results from the control group pre-survey response ($M = 3.69$, $SD = .60$) and Nexus Curriculum pre-survey response ($M = 3.66$, $SD = .60$) indicate that there is no significant difference between the control group and Nexus Curriculum group pre-survey responses, $t(101.90) = .29$, $p = .77$. The variance of the overall pre-post change means in the control group and Nexus Curriculum group was compared as well as the distribution.

Results

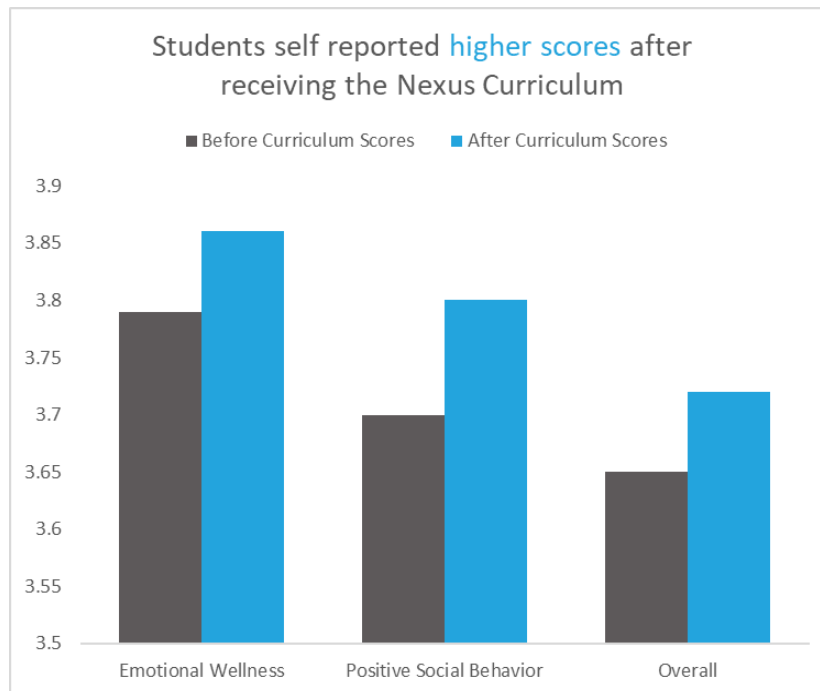
Changes in Survey Responses after Curriculum

A comparison of means was used to analyze the responses of the intervention group before the curriculum and after the curriculum. Statistically significant positive differences in mean scores were found for three developmental areas; Overall, Emotional Wellness, and Positive Social Behavior.

Overall There was a significant difference in pre-post change scores for overall SEL scores between students who participated in the Nexus Curriculum ($M = .069$, $SD = .44$) and students who did not participate ($M = -.13$, $SD = .50$), $t(99) = 2.1219$, $p = .02$.

Emotional Wellness Students in the intervention group experienced greater pre-post change in the Emotional Wellness developmental area ($M = .069$, $SD = .57$) than students in the control group ($M = -.20$, $SD = .61$), $t(101) = 2.3609$, $p = 0.01$.

Positive Social Behavior Students in the intervention group also experienced greater pre-post change in the Positive Social Behavior area ($M = .11$, $SD = .61$) than students in the control group ($M = -.20$, $SD = .65$), $t(101) = 2.4621$, $p = .008$.



Changes in Survey Responses Between Intervention and Control Groups

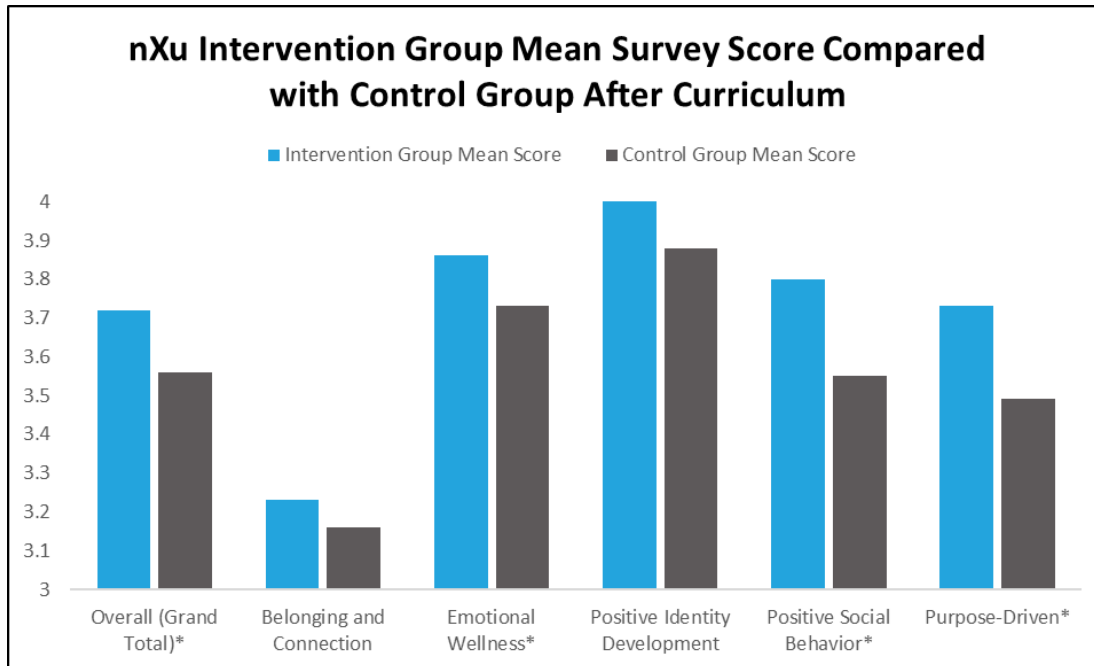
The ANCOVA results revealed a statistically significant difference in post-intervention survey scores between the intervention and control groups in select developmental areas. This suggests that the intervention program had a discernible impact on social-emotional outcomes when compared to the control group, after accounting for the initial survey responses among students. There was a nonsignificant result when comparing homogeneity of pretest values allowing us to assume equal variances and the reliability of the ANCOVA results.

Developmental Area	Intervention Group Mean Score	Control Group Mean Score	p-value
Overall (Grand Total)	3.72	3.56	0.028*
Belonging and Connection	3.23	3.16	.276
Emotional Wellness	3.86	3.73	0.043*
Positive Identity Development	4.00	3.88	.419
Positive Social Behavior	3.80	3.55	0.008*
Purpose-Driven	3.73	3.49	0.042*

Emotional Wellness Students in the intervention had higher mean survey responses indicating stronger agreement with the statements in the Emotional Wellness construct than the students in the control group ($F(1,101)=4.197$, $p=.043$) after participating in the Nexus Curriculum.

Positive Social Behavior Students in the intervention had higher mean survey responses indicating stronger agreement with the statements in the Positive Social Behavior construct than the students in the control group ($F(1,101)=7.254, p=.008$) after participating in the Nexus Curriculum.

Purpose-Driven Students in the intervention had higher mean survey responses indicating stronger agreement with the statements in the Purpose-Driven construct than the students in the control group ($F(1,101)=4.238, p=.042$) after participating in the Nexus Curriculum.



Conclusions

Overall, we found that students who participated in the Nexus Curriculum experienced a greater positive response to their **Emotional Wellness, Positive Social Behavior, Purpose-Driven** and **Overall** averaged responses than students who did not participate in the Curriculum. Controlling for the pre-existing differences in pre-survey responses strengthened the validity of our findings, indicating that the observed differences in post-intervention scores were not solely attributable to initial disparities. The higher survey responses in the intervention group underscore the effectiveness of the intervention in promoting positive outcomes, indicating its potential applicability in similar contexts.

As noted in the introduction, nXu's definition of "positive social behavior" aligns to CASEL's definition of "improved student positive social behavior." nXu's positive social behavior construct was developed with research-based evidence measures for improving social behavior in adolescents.¹¹ As such, this evaluation found statistically significant findings for CASEL's "improved student positive social behavior" construct.

As noted in the introduction, nXu defines CASEL's construct "improved student SEL skills and attitudes" as the combination of its "purpose-driven" and "emotional wellness" constructs. We found improved student SEL skills and attitudes through students' self-reported ratings of emotional wellness (defined by the Nexus curriculum construct as identifying and managing one's emotions and behavior) and purpose-driven behavior at post-test. Purpose is a significant developmental SEL skill for adolescents¹² and correlates strongly with psychological wellbeing.¹³ As such, this evaluation found statistically significant findings for CASEL's "improved SEL skills and attitudes" construct.

Though not all developmental areas were significant in their comparison between the intervention and control group, the overall average remained significant. The analysis provides the opportunity for nXu to reflect on which developmental areas are impactful and which could be improved in the coming years of implementation.

Purpose, which is central to one's identity, has been linked to resilience, well-being, and academic engagement, but has not been researched in connection with SEL competencies.¹⁴ The literature on social-emotional learning curricula suggests that these interventions can be effective in improving mental health, academic achievement, and emotional development.¹⁵

This evaluation provides evidence that the Nexus Curriculum is effectively enabling students to improve their social-emotional learning skills and attitudes and improve in positive social behavior.

¹¹ Summers & Falco. The Development and Validation of a New Measure of Adolescent Purpose. 2020

¹² Damon et al. The development of purpose during adolescence. 2003

¹³ King et. al. Positive affect and the experience of meaning in life. 2006

¹⁴ Malin, Heather. Teaching For Purpose. 2018

¹⁵ West et al., 2020; Panayiotou et al., 2019; Conduct Problems Prevention Research Group, 2010

References

- Anthis, Kristine. "Hope, Will, Purpose, Competence, & Fidelity: Ego Strengths as Predictors of Career Identity". 2014
- Burrow, O'Dell, & Hill. "Profiles of a Developmental Asset: Youth Purpose as a Context for Hope & Well-Being". 2009
- Conduct Problems Prevention Research Group (2010). The effects of a multiyear universal social-emotional learning program: The role of student and school characteristics. *Journal of Consulting and Clinical Psychology* 78(2), 156-168. doi: 10.1037/a0018607
- Damon, William. *The Path to Purpose*. 2008
- Damon, W., Menon, J., & Bronk, K. C. (2019). The development of purpose during adolescence. In *Beyond the Self* (pp. 119-128). Routledge.
- Kiang, Lisa and Fuligni, Andrew. "Meaning in Life as a Mediator of Ethnic Identity and Adjustment Among Adolescents from Latin, Asian, and European American Backgrounds". 2010
- Malin, H., Liauw, I., & Remington, K. (2019). Early adolescent purpose development and perceived supports for purpose at school. *Journal of Character Education*, 15(2), 1-20.
- King, L. A., Hicks, J. A., Krull, J. L., & Del Gaiso, A. K. (2006). Positive affect and the experience of meaning in life. *Journal of personality and social psychology*, 90(1), 179.
- Malin, Heather. *Teaching for Purpose: Preparing Students for Lives of Meaning*. 2018.
- Malin, Heather, "Teaching Purpose for Resilience and Healing", Harvard Graduate School of Education. January 31, 2019. <https://www.hepg.org/blog/teaching-purpose-for-resilience-and-flourishing>
- Panayiotou, M., Humphrey, N., & Wigelsworth, M. (2019). An empirical basis for linking social and emotional learning to academic performance. *Contemporary Educational Psychology* 56, 193-204. doi:10.1016/j.cedpsych.2019.01.009
- Summers, J. J., & Falco, L. D. (2020). The development and validation of a new measure of adolescent purpose. *The Journal of Experimental Education*, 88(1), 47-71. <https://doi.org/10.1080/00220973.2019.1575178>
- West, M. R., Pier, L., Fricke, H., Hough, H., Loeb, S., Meyer, R. H., & Rice, A. B. (2020). Trends in student social-emotional learning: Evidence from the first large-scale panel student survey. *Educational Evaluation and Policy Analysis* 42(2), 279-303. doi:10.3102/0162373720912236
- Yeager, David, et al. "Boring but Important: A Self Transcendent Purpose for Learning Fosters Academic Self-Regulation". 2015

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